



## A &amp; B DEPARTMENT NARRATIVE CODE SHEET

DEC 18 1962

WEEK	DAY	TYP.	NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
21	27	1	01	X	F	4	4	1										

BUREAU NUMBER

148374

75	76	77	78
3	1	5	6

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78  
 N/GYRO FRZ 15-20 N/UP N/CAT shot DISO/stall COLL/WATER

PREPARED BY J.W. RAS LOG CLERK CDPUNCHED D

OCT 30 1962

VERIFIED FP

## NARRATIVE REPORT

AFTR LAUNCH PLT ROTATED TO NORM PITCH ANGL ON ATT GYRO +5-20 DEG. AFTR ESTB POS CLB RATE A/C BEG VIB APPL FWD STICK STOPPD VIB. GYRO STILL 15-20 NOSE UP WINGS LEV. AT APPROX 20/130 A/C BEG VIB AGN A/SPD 80-90 DECEL. FULL A/B BTH ENGS, FWD STICK APPLD. ATT GYRO STILL 15-20 NEEDL BALL IND 1/2 FULL LEFT DEFLECT & RADAR GYRO AT LEFT BANK. ALL ATTEMPT REGN CTL NEG. PLT ORDERD RIO EJT THRU MLT EJTD. N/CVA. UNDET

PREPARED BY DJPUNCHED BBVERIFIED B

DEC 18 1962

U.S. NAVAL AVIATION SAFETY CENTER  
U. S. NAVAL AIR STATION  
NORFOLK 11, VIRGINIA

NASC:116:ees  
Ser: 877  
9 April 1963

SPECIAL HANDLING REQUIRED IAW OPNAVINST P3750.6 SERIES

From: Commander, U. S. Naval Aviation Safety Center  
To: Commanding Officer, Fighter Squadron SEVEN FOUR

Subj: VP-74 AAR ser 3-62 concerning F-4B (F4H-1) BuNo 148374  
accident occurring 27 October 1962, pilot (b) (6)

1. The subject report and all endorsements thereon have been reviewed. The Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsements.
2. The cause of this accident has been recorded by the Center indicating material failure (AN/AJB-3A) as the single contributing factor,

(b) (6)

By direction

Copy to:  
BUWEPS (F-12) (2)  
CO USS FORRESTAL (CVA-59)  
COMNAVAIRLANT  
CO VX-4  
COMCVG 8  
COMSIXTHPLT  
COMSECONDPLT  
COMPAIRINGED  
COMPAIRINNORFOLK  
SUMETREP ST LOUIS  
MUSCLE BUD/B MORTON AFB  
COMNAVAIRTESTCEN PAX RIVER  
CO VP-41, 102, 114, 121, 143  
COMMAD 4, 5  
CO PROFLANT  
OIC VP-101 DFT "AB"  
CO NAVPARAPAC EL CENTRO  
COMBARDIV 4  
CO VRF(AW)-331, 314  
CO SECNDMAW

3

SPECIAL HANDLING REQUIRED IN ACCORDANCE  
WITH PARAGRAPH 70, OPNAVINST 3750.6D

14 JAN 1967

PIFTH ENDORSEMENT on VF-74 AAR 3-62, F4B, 148374, accident occurring  
27 October 1962, pilot (b) (6)

From: Chief, Bureau of Naval Weapons  
To: Commander, U. S. Naval Aviation Safety Center  
Subj: Aircraft Accident Report

1. Forwarded.
2. A second procurement source for the AJB-3A attitude indicator has been approved after careful investigation. Improved quality and resultant reliability is anticipated.
3. The recommendation concerning electrical and mechanical failure warning system for the attitude indicator is noted. Research and development effort is continuing; however, such a system is not immediately available.
4. Naval Air Test Center will be directed to evaluate the radar horizon as a standby flight attitude indicator with a view toward improving pitch sensitivity. The radar horizon has not previously been evaluated under controlled conditions as a practical flight instrument in the F-4 aircraft. A separate standby attitude indicator is also being considered.
5. The RAPEC III retrofit program will incorporate dual sequence ejection capability.
6. Methods for boarding life rafts wearing various life preservers is being investigated. Optimum methods, when determined, will be published by BACSEB.

(b) (6)

Copy to:  
CO, USS FORRESTAL (CVA-59)  
COMNAVAIRLANT  
CO, VF-4  
COMDOVS-5  
CO, VF-74

BY direction

4

CNAL 3061  
Ser 116  
4 JAN 1963

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 70, OPNAVNET 3750.6D

FOURTH ENDORSEMENT on VF-74 AAR 3-62, F4B, 148374, accident occurring  
27 October 1962, Pilot (b) (6)

From: Commander Naval Air Force, U. S. Atlantic Fleet -  
To: Commander, U. S. Naval Aviation Safety Center  
Via: Chief, Bureau of Naval Weapons

Subj: Aircraft Accident Report

1. Readdressed and forwarded, concurring in the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers.
2. The comments and recommendations pertaining to the need for a dual sequence ejection capability in the F-4 are fully concurred in.
3. Although the overall reliability of the AJB-3A as reported by NAVAIRLANT units has been generally good, the experience of this particular squadron has been to the contrary. Nine failures in three months including the failure that resulted in this accident is completely unsatisfactory; it is considered a matter of utmost urgency that the reliability of this installation be improved. In addition, the requirement for an improved standby attitude indicator in the F-4B aircraft as recommended in the first and second endorsements is necessary unless we are willing to accept similar accidents in the future. Accordingly Chief, Bureau of Naval Weapons is requested to comment on the feasibility of providing an independent standby attitude indicator or, improving the presently installed radar gyro horizon so that it can be readily used as the alternate system.

*Geo. E. Ford*  
Geo. E. Ford

Copy to:  
COMINCHIEFL  
COMINCHIEFL  
COMNAVAVIAFACEN  
COMFAIRW  
COMFAIRW  
D/PER RONSON AFB, SAN BERNARDINO, CALIF.  
CO, USS FORRESTAL (CVA-59)  
NAVIC PAC  
COMNOVO-3  
32, 37-12, 74, 102, 114, 121, 143  
COMFAIRW  
5

FB4:34:57  
3750  
Sor: 455  
17 December 1962

ORIGINAL

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 70,  
OPNAVINST 3750, 6D

THIRD ENDORSEMENT on VF-74 AAR 3-62, F-4B (F4H-1) DUNO  
148374, accident occurring 27 October 1962. Pilot (b) (6)

From: Commander Carrier Division FOUR  
To: Commander Naval Aviation Safety Center  
Via: Commander Naval Air Force, U.S. Atlantic Fleet  
Subj: VF-74 AAR, 3-62

1. Forwarded concurring in the comments and recommendations of the board as modified by the first and second endorsements.
2. As noted in paragraph 5, part V of the AAR, an intensive search was conducted in the area in which the accident occurred. Six destroyers combed the area immediately following the accident until approximately 200015A October 1962. In addition, propeller aircraft were launched at first light on 28 October to augment the destroyer search team.
3. This command would like to add its weight to the recommendation that a dual sequence ejection capability be incorporated in the F-4 and other multiple crew aircraft as soon as possible. The two systems mentioned in the first endorsement have proven their worth in cases similar to this accident (b) (5)

(b) (5)

(b) (6)

Chief of Staff

Copy to:  
NAVAIRNAFECEN (2)  
BUWEPS  
COMFAIRMED  
COMFAIRWING/TOLK/COMMAND 4 & 5  
COMDESTRIFLT  
COMRESCONFLT  
COMDETAIRBLANT  
BUWEPSNORTH  
D/FDR NORTON AFB, San Bernardino, Calif

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 70,  
OPNAVINST 3750, 6D

**ORIGINAL**

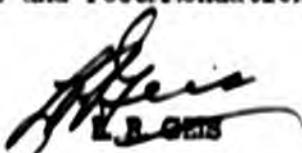
CVA59  
Code 04/3750  
Serial: 2214  
**DEC 10 1962**

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 70, OPNAVINST 3750.6D

THIRD ENDORSEMENT on VF-74, AAR 3-62, F-4B (F4H-1) BUENO 148374, accident occurring 27 October 1962, Pilot [REDACTED] (b) (6)

From: Commanding Officer, USS FORRESTAL (CVA-59)  
To: Commander Naval Aviation Safety Center  
Via: (1) Commander Carrier Division FOUR  
         (2) Commander Naval Air Force, U.S. Atlantic Fleet  
  
Subj: VF-74 AAR, 3-62

1. Forwarded concurring in the comments and recommendations of the board and subsequent endorsers.

  
R. B. Goss

Copy to:  
NAVAVNNSAFECEN (2)

CO, VF-102  
CO, VF-41  
CO, VF-121  
CO, VF-114  
CO, VF-143  
CO, VZ-4  
CO, VMF (AW)531  
CO, VMF (AW)314  
CG 2 MAW  
CG FMPLANT  
NATO PAX  
CO, VF-74

BUWEPS

COMCARRIER DIVISION FOUR

COMPAIRNED

COMFAIRNORFOLK/COMMABS 4 & 5

COMSIXTH FLEET

COMBROARD FLEET

COMNAVAIRLANT

BUWEPSREPSTL

D/PSC NORTON AFB, SAN BERNADINO, CALIF

CVG-8

OINC, VF-101 DET A

CO, Navy Parachute Facility  
El Centro, Calif.

**ORIGINAL**

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 70, OPNAVINST 3750.6D

**ORIGINAL**

OVO-8  
23:RO:rhl  
3750  
Ser: 320  
21 November 1962

SECOND ENDORSEMENT on VF-74 AAR 3-62, F-4B (F4H-1) BUNO 148374, accident occurring 27 October 1962, Pilot (b) (6)

From: Commander Carrier Air Group EIGHT  
To: Commander Naval Aviation Safety Center  
Via: (1) Commanding Officer, USS FORRESTAL  
     (2) Commander Carrier Division FOUR  
     (3) Commander Naval Air Force, U.S. Atlantic Fleet  
Subj: VF-74 AAR, 3-62

1. Forwarded concurring in the comments and recommendations of the board and first endorser.

(b) (5)  
(b) (5)

The obvious hazard in ejecting a crew member who is not prepared for the high acceleration forces inherent in the Martin-Baker system is recognized. However, at least one inadvertent ejection from the TF-9J (F9F-ST) is known to have occurred without serious injury to the crew member. Acceleration forces will be reduced considerably with the incorporation of the rocket boost to the Martin-Baker system. It is recommended that operational aircraft having more than one crew member be given priority in incorporation of the rocket boost capability and that action to be taken to provide the F-4 aircraft with a dual ejection system by the time the rocket capability is available.

2. A standby attitude indicator is considered an operational requirement in all-weather aircraft since even those gyro instruments with outstanding records of reliability are not immune to failure. The gyro horizon of the pilot's radar indicator which uses a source other than the AN/AJB-3A for attitude information was intended to serve as the standby attitude indicator in F-4 aircraft. However, the radar gyro horizon does not adequately fulfill its intended role during a failure of the type experienced in this accident. The display of pitch attitude information is less than optimum, being both coarse and indefinite. A pitch change on the order of 5° must be made before becoming readily apparent to the pilot. The radar antenna elevation marker is the best pitch attitude reference mark presently available to the pilot. This marker is located at the extreme right side of the indicator and its value as a pitch reference point is further reduced in turning flight because of its displacement from the horizon bars. There are two alternate courses of action, aside from improving the reliability of the AN/AJB-3A, which will help prevent future accidents of this type.

3. Increase the pitch sensitivity of the radar gyro horizon and provide a plainly visible reference point in the center of the pilot's radar indicator.

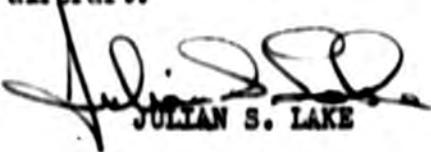
**ORIGINAL**

**ORIGINAL**

b. Provide a standby attitude indicator adjacent to the AN/AJB-3A attitude indicator. The standby instrument should have an independent gyro system and normally operate on aircraft electrical power. It should have an independent or self-contained power source which is automatically actuated in the event of loss of aircraft electrical power.

4. The choice between the above two proposed improvements is a function of pilot opinion as well as the cost and ease of incorporation. The two major advantages of a standby instrument located immediately adjacent to the primary attitude indicator are its independent power source and its close proximity which would impose least disruption to the normal instrument scan pattern and facilitate constant comparative monitoring of its operation. However, the pilot will find it difficult to completely ignore the inaccurate instrument in case of a discrepancy. The close proximity can then actually become a liability unless the failed instrument is covered. Improvement of the radar gyro horizon as outlined above would greatly enhance its utility as a standby flight instrument. The instrument scan pattern would be slowed by its relative remoteness but the tendency of the pilot to be unduly influenced by a failed primary attitude indicator would be lessened. The loss of the gyro horizon as the standby attitude indicator in the event of complete electrical failure would be an important disadvantage that might be corrected if it is feasible to provide the primary attitude indicator with a standby power source.

5. As pointed out by the first endorser, provision of a battery power source for the pilot's emergency instrument lights would be a very worthwhile investment in the F-4 aircraft.



JULIAN S. LAKE

**Copy to:**

NAVAVNSAFECEN (2)	CO, VF-102
BUMPS	CO, VF-41
USS FORRESTAL (CVA-59)	CO, VF-121
COMGARDIV FOUR	CO, VF-111
CONFIRMED	CO, VF-143
COMPAIRNORFOLK/COMNABS 4 & 5	CO, VX-4
COMSIXTH FLEET	CO, VMF(AW) 531
COMSECOND FLEET	CO, VMF(AW) 314
COMMAVAIRLANT	CO 2 MAW
BUMPSREPSTL	CO FMFLANT
D/FMR NORTON AFB, SAN BERNARDINO, CALIF	NATC PAX
OINR, VF-101 DET A	CO, VF-74
CO, Naval Parachute Facility, El Centro, Calif.	

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Code 101/cjc  
Ser: 463  
21 November 1962

ADDENDUM to FIRST ENDORSEMENT on VF-74 AAR Ser 3-62 of 27 October 1962

From: Commanding Officer, Fighter Squadron SEVENTY-FOUR  
To: Commander, Naval Aviation Safety Center  
Via: (1) Commander, Carrier Air Group EIGHT  
     (2) Commanding Officer, USS FORRESTAL (CVA-59)  
     (3) Commander, Carrier Division FOUR  
     (4) Commander, Naval Air Force, U. S. Atlantic Fleet

Subj: FIRST ENDORSEMENT on VF-74 AAR Serial 3-62; addendum to

1. Previous accident and pilot history were omitted from the FIRST ENDORSEMENT dated 15 November 1962.

2. LT (b) (6) the pilot, has had two previous accidents. One involved material failure, and the other reported the pilot as a cause factor. In the Pilot Factor Accident LT (b) (6) made a hard carrier landing in an F-6A (F4D-1) in 1958 during a rainshower resulting in overhaul damage. There is no apparent pattern linking that accident with the one reported herein.

3. LT (b) (6) has an excellent record as a naval aviator and his broad flight experience is summarized in enclosure (12). He participated in the Fleet Introduction Replacement Model program for the F-4B (F4H-1) because of his ability, judgement and 740 hours experience in the F-6A (F4D-1) aircraft. He later instructed in the F-4B (F4H-1) replacement air group squadron and was assigned to VF-74 from this billet.

4. Although pilot factor was assigned by the board in this accident, its degree is considered so small as to be almost negligible.

PAUL E. SPENCER

ORIGINAL

ORIGINAL

FIRST ENDORSEMENT on VF-74 NAV Ser: 3-62 of 27 October 1962

From: Commanding Officer, Fighter Squadron SEVENTY-FOUR  
To: Commander, Naval Aviation Safety Center  
Via: (1) Commander Carrier Air Group EIGHT  
      (2) Commanding Officer, USS FORRESTAL (CVN-59)  
      (3) Commander, Carrier Division FOUR  
      (4) Commander Naval Air Force, U. S. Atlantic Fleet

Subj: VF-74 NAV Ser: 3-62

1. Forwarded concurring in the comments and recommendations of the board.

2. In reviewing an accident of this nature the subject of automatic  
   recommend dual ejection capability immediately comes to mind. (b) (5)

(b) (5) (b) (5) (b) (5)

There are two such systems in  
use to my knowledge, one in the F-4H(12J) and one in the A-5A(A3J-1). It  
is recommended that a study of these systems be made and compared to the  
F-4B(F4H-1) ejection system to determine if such a system would be feasi-  
ble and desirable for incorporation in the F-4B(F4H-1) airplane.

3. As noted in paragraph 20 of Part VII of the Investigation, there have  
been a number of discrepancies in the AJB-3 all attitude reference system  
in the past. A reliable attitude reference system is a must in an all-  
weather fighter and pilot confidence in this system has to be of a high  
order to properly execute precise maneuvers such as transition to climb  
from a catapult launch. During the catapult power stroke all instruments  
are blurred in the pilots vision and the first instrument he "homes-in on"  
after the launch is invariably the attitude gyro. This is the most critical  
phase of flight and requires a rapid interpretation of attitude, particularly  
pitch attitude, together with smooth coordinated stick action to initiate  
the transition to climb. Under actual instrument conditions when the first  
instrument the pilot observes has failed, with no warning cue of its failure,  
it is very easy to understand how the rapidly degenerating situation could  
place him in an untenable flight regime before a normal instrument scan  
could warn of the situation. A primary attitude gyro failure at a comfort-  
able cruising altitude can sometimes be quite disconcerting and can result  
in considerable "recognition time" prior to discovery that the instrument  
has failed. It is highly recommended that the contractor vigorously pursue  
an investigation into the cause of the particular type failure described in  
this report and provide a means to reduce the possibility of the failure and  
provide a warning device indicating such a failure.

4. Again the ugly possibility of a complete electrical failure under actual  
instrument conditions brings to mind the desirability of a standby attitude  
reference such as an air driven or battery powered attitude gyro. Coupled  
with this an emergency battery powered instrument panel flood light would  
provide added insurance against loss of instrument reference and could be

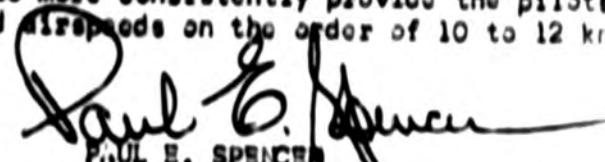
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

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turned on as a standard pre-catapult launch procedure. The present emergency generator does not provide more than 15 minutes continuous electrical power.

5. The point concerning excess end catapult airspeed in paragraph 6 of the Investigation and paragraph D1 of the analysis is well taken and steps are being initiated to more consistently provide the pilots in this command with excess end airspeeds on the order of 10 to 12 knots.

  
PAUL E. SPENCER

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SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPN.VINMST 3730.6D

12



1. LOCATION	2. DATE OF ACCIDENT	3. TIME OF ACCIDENT	4. TEMPERATURE	5. HUMIDITY	6. WIND DIRECTION	7. ALTITUDE
None	0	NA	66.9 F	NA	50.0 P	30,04

7. OTHER INFORMATION (WEATHER, TIDES, AIR PRESSURE, ETC.)

1500 sec'd, moonless night, no horizon

FACTOR	FACTOR	FACTOR
X PILOT	LANDING SIGNAL OFFICER	X MATERIAL FAILURE OR MALFUNCTION
CREW	OTHER PERSONNEL (Pilot)	DESIGN
SUPERVISORY PERSONNEL	ADMINISTRATIVE	ROLLING AND PITCHING DECK/ROUGH SEAS
MAINTENANCE PERSONNEL	AIRPORT OR CARRIER FACILITIES	UNDETERMINED
SERVICING PERSONNEL	X WEATHER	OTHER (Pilot)

## FOR ACCIDENTS ON COMBAT-LOVED CARRIER (Carrier/Carrier Division or Air Wing)

1. DATE DEPLOYED	2. DAY - HOURS/LANDINGS LOGGED SINCE DEPLOYED	3. DAY - HOURS/LANDINGS LOGGED LAST 30 DAYS
3 AUG 1962	56/31	20/12
4. NIGHT HOURS LOGGED SINCE DEPLOYMENT	5. NIGHT - HOURS/LANDINGS LOGGED SINCE DEPLOYED	6. NIGHT - HOURS/LANDINGS LOGGED LAST 30 DAYS
34	8/75	6/3

## PART I - MAINTENANCE, MATERIAL AND FACILITIES DATA

DATE OF MANUFACTURE	SERVICE TOUR	MONTHS IN THIS TOUR	TOTAL NO. OF OVERHAULS	FLIGHT HRS. SINCE LAST OVERHAUL	FLIGHT HRS. SINCE ACCEPTANCE	TYPE CHECK LAST PERFORMED	FLIGHT HOURS SINCE LAST CHECK	NO. OF DAYS SINCE LAST CHECK
1962 June 61 Navy Accept.	1	13	0	NA	401.4	3rd Maj CH 8-13-62	51.0	75
	ENGINE MODEL	ENGINE # SERIAL NO.						
0 01 MAR 62 J79-GE-3 401631	0	NA	126.0	NA	126.0	NA	NA	NA
0 07 SEP 62 J79-GE-3 401381	0	NA	205.6	Major	116.8	156		

8. DID FIRE OCCUR?  
 BEFORE ACCIDENT AFTER ACCIDENT DID NOT OCCUR

9. DID EXPLOSION OCCUR IN FLIGHT?

 YES  NO

10. WAS AIRCRAFT

 AMP FOR SERIAL

11. HAS AIR BEEN REQUESTED?

 YES  NO

12. FAILED COMPONENTS INVOLVED

## CHECK ITEMS PRESENT IN THIS ACCIDENT

13.  A/C DESIGN14.  UNDETERMINED15.  SURFACE FACILITIES16.  A/C EQUIPMENT17.  TECHNICAL INSTRUCTION18.  HUMAN ENGINEERING (e.g. Controls, ergonomics, etc.)19.  MAINTENANCE20.  OTHER (Specify) -----

21. NUMBER OF PILOTS	22. PILOTS	23. PILOTS HOURS	24. WEIGHT OF AIRCRAFT	25. IS IT SEALED	26. KIND OF FUEL	27. FUEL PRESSURE
100. Fours	100. Fours	Normal	40,000	NA	JP-5	NA

28. LENGTH OF FLIGHT (TIME OF FLARE OUT)

29. LENGTH OF FLIGHT (TIME OF FLARE OUT)

30. EXTERNAL FUELS REMAINING

31. PART III remarks

(If accident report is incomplete, attach additional sheets)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

ORIGINAL



PART V - THE ACCIDENT

1. At 2034A on 27 October 1962 LT (b) (6) and his Radar Intercept Officer (RIO), LT Frank M. BOSTON were launched from the port catapult of the USS FORRESTAL (CVA-59) on an air intercept training mission. After launch the airplane began a higher than normal rate of climb and started a gentle right turn. About one mile ahead of the ship and at about five hundred feet of altitude the afterburners were observed and at about five hundred feet of altitude the afterburners were observed to ignite. The airplane then began a descending left turn and crashed into the water about 010 degrees relative to the ship's head and at a range of approximately one and one-half miles.
2. After launch, the pilot rotated to a normal pitch angle on the attitude gyro (15 to 20 degrees). After ascertaining that a positive rate of climb had been established by the vertical speed indicator and altimeter, the pilot raised the landing gear handle. The airplane began to vibrate slightly and the pilot applied forward stick pressure and the vibration ceased. The gyro still indicated 15-20 degrees nose up and wings level. Airspeed was about 130 KCAS and altitude about 150 to 200 feet. The flaps were not raised from the full down position. The airplane began to vibrate again and the pilot noted airspeed 80 to 90 KCAS and decelerating. He selected full afterburner on both engines, applied forward stick, glanced at the attitude gyro which still indicated 15 to 20 degrees nose up, wings level, then shifted his attention to the needle-ball and radar gyro. The needle indicated + full left deflection and the radar gyro left bank. All attempts to regain control of the airplane failed and with the airspeed indicating 50-70 KCAS, the pilot ordered the RIO to eject then he (the pilot) pulled the face curtain.
3. The pilot's ejection seat operated normally, the chute deployed and he entered the water almost immediately. He had no difficulty in separating from the parachute or actuating his life vest.
4. The pilot noticed the ship passing close aboard, fired several rounds of tracer ammunition from his .38 revolver, then inflated and boarded his life raft. Some difficulty was encountered from entanglement with the life raft lanyard, but once in the raft this problem was solved. As a destroyer (USS RAILLY) approached he fired two more rounds of tracer, waved his red flashlight overhead and was illuminated by a searchlight. Two swimmers dove from the destroyer and with their assistance the rescue was accomplished by climbing up a boarding net.
5. Intense search of the area for the RIO was conducted for the remainder of the night without success. At 0626A on 28 October an oil slick was sighted and between 0640 and 0645 small pieces of debris and human tissue were recovered by USS INGRAM and USS GOODRICH.

PART VI - DAMAGE TO THE AIRCRAFT

1. The airplane was completely destroyed by impact with the water and the explosion which occurred on entry.
2. Only a few small pieces of honeycomb material and pieces of personal equipment were salvaged (enclosures (6) and (7)).

1  
16  
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Part VII - INTERVIEWS

1. The pilot and Radar Intercept Officer (RIO) were physically qualified and aeronomically adopted for the flight assigned.
2. The flight was authorized and properly briefed.
3. The airplane had been properly pre-flighted and was ready for flight. (Enclosure (1)).
4. All systems (including the intercom system) checked normally on the post-start checks. (Enclosures (1) and (10)).
5. The pilot trimmed the airplane for a normal catapult shot ( $1\frac{1}{2}$  degrees nose up). (Enclosure (1)).
6. Steam pressure available to the catapult for launching was 550 psi. Using the applicable Launching Bulletin (A.L.B. 6-55) for the F-4B (F4H-1), airplane gross weight 45,000 pounds, and free air temperature  $67^{\circ}\text{F}$ , wind over the deck (WOD) 30 KTS a steam pressure of 530 psi was selected by the Catapult Officer. This pressure should have produced catapult end speed of 134 knots (164 knots airspeed) or 16 knots above a minimum of 118 knots for this weight. The actual end speed produced was 139 knots (169 knots airspeed). This was 21 knots excess over minimum. Over a typical operating period (October 10 to November 12) at gross weights of 47,000 to 48,500 pounds catapult end speeds have been minimum plus:

	<u>Port Bow</u>	<u>Starboard Bow</u>
Low	21	15
High	31	26
Average	24.8	22.5

7. The night was black and there was no visible horizon. (Enclosure (2)).
8. The pilot's attitude gyro (AN/AJR-3A) locked in a 15 to 20 degree nose high wings level position shortly after the airplane was rotated to a climb attitude. (Enclosure (1)).
9. The RIO did not call airborne airspeed as was his normal habit following the catapult shot. (Enclosure (1)).
10. The airplane continued to rotate until a full stall was experienced. (Enclosure (1)).
11. In the following sequence, the pilot noted a positive rate of climb, raised the landing gear and shortly thereafter felt a distinct airframe vibration. At this time forward stick pressure was applied and a calibrated airspeed of 130 knots and altitude of 150 to 200 feet were noted. Immediately thereafter the airplane began vibrating again and the airspeed was noticed decelerating through 80-90 KIAS. Full afterburner was then selected, forward stick pressure applied, and the attitude gyro remained at  $15^{\circ}$  to 20° nose up, wings level. At this time the needle-ball indicated a full left deflection and the rudder gyro a left bank. Upon checking the airspeed again

PART VII - THE INVESTIGATION (Continued)

the pilot noticed 50-70 KCAS, decided that a recovery was impossible, notified the RIO to eject, and then pulled the face curtain. (Enclosure (1)).

12. When the pilot ordered the ejection he did so using the RIO's first name. (Enclosure (1)).

13. The pilot recalled no stall warning indication (rudder shaker) which should have occurred 19 knots above stall (22.3 units angle of attack). (Enclosure (1)).

14. At take-off gross weight, gear and flaps full down, stall speed is approximately 130 KCAS at military rated thrust (MRT).

15. All efforts by the pilot to fly the airplane out of the stalled condition were unsuccessful.

16. The short time interval between initial tug from the parachute deployment and pilot entry into the water indicates that any further delay in ejection would have provided insufficient time for the ejection sequence to have been completed. (Enclosure (1)).

17. The pilot's ejection seat functioned normally in all respects.

18. The RIO did not eject. Whether an attempt was made and some malfunction occurred could not be established from the evidence available. The remains of the RIO established that he was in the airplane and that an explosion occurred on impact. Pieces of fine wire such as are in the circuit breaker panel and pieces of plexiglass were found imbedded in the recovered tissue with evidence of having been driven in by a terrific force as from a high order explosion.

19. The airplane contacted the water under Combat Rated Thrust (CRT). (Enclosures (1) and (2)).

20. This airplane had experienced attitude gyro failures on two previous occasions:

a. On 7 September 1962 the airplane was downed for instrument and night flight due to the gyro locking in pitch and roll (level flight attitude) twice during a day intercept training flight of 1.8 hours duration.

In attempting to remedy this discrepancy the compass adapter was removed from another airplane and installed in BUNO 148374. The Attitude Direction Indicator was also replaced.

b. Following a 35,000 foot intercept training flight (duration 1.3 hours) the next day, 8 September 1962, the airplane was again downed with the following gyro discrepancy.

"Gyro indicator froze twice in roll attitude with left wing down 30 degrees and once in wings level attitude."

PART VII - THE INVESTIGATION (Continued)

Corrective action taken was the replacement of the Displacement Gyro Assembly.

Subsequent to this the airplane flew 27 flights and 45.4 hours total time with no gyro malfunctions.

21. This squadron has experienced 9 AN/LJB-3A failures since deployment (3 months). The discrepancies were described as: "jitters in pitch," "jumps in azimuth," "dips 10° at odd intervals," "varies in bank up to 25° on acceleration," "crested in 10° port bank," "crested in 70° nose up, 135° left roll." These are in addition to the discrepancies described elsewhere for BU NO 148374. Of these 9 discrepancies, 7 required replacement of the Displacement Gyro to correct. The other two were corrected by replacing the Attitude Indicator.

As those units come hermetically sealed, upon malfunction they are removed and returned to supply without attempting to determine the cause of internal failure.

22. When the electrical power to the AN/LJB-3A is interrupted it normally rotates to a 90 degree position.

No information is available to the squadron which shows what would happen if a mechanical failure occurred in the AN/LJB-3A gyro system. If an electrical failure (D.C. or A.C.) occurs an "OFF" flag appears on the lower left corner of the gyro face. There is no warning indicator available to warn the pilot if a mechanical failure occurs.

23. WF-74 in Flight Hazard Report 18-62, dated 11 October 1962, recommended the installation of a battery or air driven standby gyro. This gyro should be located adjacent to the main attitude gyro for easy comparison. By having the standby gyro battery or air driven, the present dangerous situation of complete electrical failure during night or actual instruments would be eliminated.

24. The F-4B (F4H-1) NATOPS Manual was not violated. However, the technique of the pilot on the catapult varied from NATOPS as noted in Part III REMARKS, page 3, of the Aircraft Accident Report Form.

PART VII - THE ANALYSIS

1. The nature of a night catapult shot, particularly when there is no horizon, demands that the primary attitude reference instrument be the attitude gyro. Failure of this instrument before the pilot has time to establish an adequate visual can quickly jeopardize the safety of the airplane. The incipient failure which occurred in this case, with no visual outward warning to the pilot, quickly placed the airplane in an untenable position.

2. This squadron has had little trouble with the artificial stall warning system. On the contrary the stall warning system has been found to be very reliable. For this reason it is believed that the airplane decelerated so rapidly that the pilot simply could not remember the rudder shaker operating amongst all else that began to happen.

8

PART VIII - THE ANALYSIS (Continued)

3. Once the full stall was reached it is doubtful that a recovery could have been accomplished at that low an altitude, particularly under the described circumstances (partial panel, actual instrument flight conditions). Had the pilot known or recognised the partial panel situation immediately after the launch, he may have been able to avoid a completely stalled condition.

4. With the wreckage unrecoverable no hope existed that the direct cause of the gyro failure could be determined. Analysis of the system circuitry available to the squadron tends to lend weight to the assumption that the failure was mechanical (either in the indicator or in the main gyro) rather than electrical. Indications are that had the failure been electrical the indicator would have re-tasted as described in Part VII, paragraph 22.

5. An effort was made to construct a mock-up of the gyro system with the intent of injecting troubles into the system in the hope of being able to duplicate this failure. However, this plan was abandoned as not being feasible with the equipment on hand and time available. It was decided that any results obtained might be erroneous or misleading if a complete system was not available for experimentation.

6. LT (b) (6) survival equipment functioned as advertised. The .38 caliber revolver was very useful and the targets could be seen clearly. He had the revolver secured by a lanyard to his gun belt which allowed him to simply drop the gun when finished with it instead of having to search for the holster. To retrieve it he traced down the lanyard. (The gun worked perfectly although water-soaked).

7. LT (b) (6) had no difficulty in boarding his PK-2 liferaft even though he was wearing an inflated MK-3C life vest. Other pilots, in similar situations, have reported great difficulty in entering the raft by the conventional method. Based on this experience, it appears that when wearing an inflated MK-3C life vest, the best life raft entry method may be to pull the low end of the raft under the ramp.

4. PERSONNEL FACTORS

1. Once pitch attitude was established on the gyro and positive rate of climb and altitude increase noted, it is easy to see how the situation deteriorated beyond the pilot's control before he became aware of the failure. The radar horizon available to the pilot is merely an illuminated bar which gives adequate wing position but poor nose position information. Therefore, the pilot was faced with a partial panel situation which was extremely difficult to recognize. Lack of visual horizon precluded the pilot discovering the failure by any means other than the remaining flight instruments.

2. The fact that LT (b) (6) had not flown at night for 10 days may indicate that his scan pattern was a little slower than normal. A slower than normal scan pattern would tend to hinder early recognition of the gyro failure.

PART VIII - THE ANALYSIS (Continued)

3. Under similar circumstances it is doubtful that any pilot with equal proficiency could have recognised this failure in sufficient time to execute a recovery.

4. No evidence is available to establish whether the RIO attempted to eject. However, previous RIO and squadron training should have provided him with sufficient knowledge to determine that an ejection was necessary. Squadron RIOs customarily monitor altitude and airspeed on launches, descents, approaches and in the pattern around the ship. The use of the RIO's first name in the ejection order is considered necessary because it tends to eliminate confusion and save precious time.

B. SUPERVISORY FACTORS

1. NONE.

C. MATERIAL FAILURES OR MALFUNCTIONS

1. The pilot's attitude gyro (A.N/AJB-3M.) froze in a 15 to 20 degree nose up wings level position shortly after catapult launch. This failure caused the pilot to believe that the airplane was in the correct climb attitude when in fact attitude was too high and increasing. Due to the fact that the airplane was not recovered it is not known whether some other failure may have been a contributing factor.

2. The fact that the RIO did not call airborne airspeed as was normal and was not heard from after reporting ready for launch indicated that possibly the ICS system may have malfunctioned during or after the catapult shot, making it impossible for the RIO to have heard the order for ejection. If this occurred he may have been attempting to diagnose and remedy communications problems and not been aware of what was happening.

D. FACILITIES

1. The airplane was trimmed for a catapult end speed of minimum plus 10-20 knots. The end speed attained of minimum plus 21 was one knot above the trim range, but within the range of excess end speeds that the pilot was accustomed to receiving. However, an unusually wide variation of excess end airspeeds exists for the bow catapults (15 to 31 KTS). The average range tending to be higher than airspeeds for which the F-4B (F4H-1) airplanes are normally trimmed.

PART IX - COMMENTS

1. The most probable cause of this accident was the material failure, most likely mechanical, of the pilot's attitude gyro.

2. Weather, in that there was no visible horizon, is considered a contributing factor.

PART IX - COMMENTS (Continued)

3. Had the pilot immediately recognized the gyro failure by means of an unmistakable visual warning, the aggravated, unusual attitude, and hence, the accident, might have been avoided.
4. The airplane was launched at an excess end speed within tolerance of the trim setting for the gross weight involved.
5. The pilot was accustomed to excess end speeds of the magnitude received during this launch.

PART X - RECOMMENDATIONS

1. That the manufacturer of the attitude gyro (Instrument Division of Lear Incorporated) perform tests on a priority basis to determine cause and remedy of failures of this nature.
2. That consideration be given to providing a superior warning system to the pilot which would give unmistakable, immediate visual warning of an attitude gyro failure, either electrical or mechanical.
3. That on night catapult shots the RIOs be instructed to additionally monitor their attitude gyro to alert the pilot in case of unusual pitch attitudes.
4. That the pilots cockpit of the F-4B (F4H-1) airplane be immediately provided with a battery or air driven standby gyro.
5. That all pilots continue to inform their RIOs of any dangerous situation as soon as possible and alert them if there is a possibility of ejection becoming necessary.
6. That RIOs recognizing a situation in extremis, exercise their own discrete judgment with regard to evacuating the airplane in the absence of some word of warning by the pilot.
7. That, in the F-4B (F4H-1) airplane whenever ejection becomes necessary, pilots make an effort to use familiar names in the order or warning to the RIO to eliminate confusion.
8. That greater effort be made toward adhering to the optimum range of excess end airspeeds for the F-4B (F4H-1) airplane as established by current Aircraft Launching Bulletins.
9. Recommend that an investigation be made to determine if the method used by this pilot (pulling the PK-2 raft under the rump) is the best with the NL-3G life vest inflated.

Statement of LT [REDACTED]

(b) (6)

USN, Pilot of F-4B (BuNo 148371)

I was scheduled for the 2030 launch with CDR [REDACTED] (b) (6). The flight was adequately briefed in all respects for a normal night training mission. I was assigned F4H s/n 105. As I recall this aircraft had been last flown by LT [REDACTED] (b) (6) on a night hop just prior to my scheduled launch. The yellow sheet disclosed no grounding gripes for either day or night flight. The one pilot info gripe that I remember at present was on the fuel boost reading high at 90% and above.

LT BOSTON, my RIO, was scheduled with me for this flight and attended the same briefing. He also read over the previous discrepancies on the yellow sheet.

We proceeded to man aircraft at 2000. As was our procedure, LT BOSTON and I made the external preflight together. Both Sparrow missiles were checked for security. No discrepancies were noted on the external pre-flight. As was normal procedure, we both checked our respective Martin/Baker seats for proper installation and rigging. No discrepancies were noted. We strapped-in and commenced turnup at approximately 2015. Turnup was normal in all respects. Standard checks for speed brakes, hook, wing spread, flaps full down, then  $\frac{1}{2}$ , then up and then full down were given followed by stabilator, rudder, aileron, and spoiler checks. No discrepancies noted.

The front cockpit lights were set up as follows: standby compass light on, console rheostat approximately 2 notches below full intensity, no console floods, instrument panel lights approximately 3 to 4 notches down from full intensity, and instrument floods on dim. The radar was turned to a clearly visible horizon but not extremely bright. Upon check pull from spot aft of number two elevator, deflection of the needle-ball was checked OK. Attitude gyro was set level prior to nose gear extension. We were taxied forward behind number two cat. Take-off checklist was verbally read off and acknowledged by LT BOSTON. Take-off trim was set at 1 1/2 units nose up - all other zero.

The AD ahead of us on #2 cat on full power turnup momentarily gave white lights from the tail pipe prior to launch. It was ascertained beforehand on external preflight that there was no - or extremely little visual horizon. I was thoroughly night adapted prior to launch except for the AD turnup.

Since the ship was under radio silence, Fox Corpon was determined to be approximately 170 degrees magnetic using relative position of the Tacon.

On the catapult, standard signals were given. On full power turnup by the Catapult Officer, throttles were advanced to 100%, engine instruments checked and acknowledgement received from LT BOSTON that he was ready. The external lights were turned on and shortly thereafter the cat shot commenced (estimated time 2034). My gross weight for the cat shot was 48,000 pounds. Normal squadron procedure is to have stick full aft for the cat shot, moving the stick forward to the trim position upon bridle release. This was done and the aircraft was rotated to approximately 15 to 20 degrees nose up. LT BOSTON normally gives me catapult end speed on each shot but for some reason on this one he did not. The last transmission I received from him was that he was ready to go on the full power turnup.

Enclosure (1)

\* SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPIL.VINBT 3750.6D

Since it had been previously determined that there was no visual external horizon the cat shot was made as a normal night cat - on instruments. The cat shot felt adequate - even a little strong throughout the power stroke. As best I can remember, I saw 150 KCAS on the airspeed indicator at the end of the stroke. By a glance at the rate of climb and altimeter it was determined that I had a positive rate of ascent.

Altimeter had been set at 30.05 (as given by Center during brief). This gave me an indicated +20 feet at flight deck level.

After rate of climb had been determined as positive, attention immediately went back to the attitude gyro. Gyro still indicated an estimated 18 degrees of climb. At this time landing gear was retracted and at the same time the airframe began to vibrate slightly. Nose down (forward stick) was applied with resultant loss of vibration. As best I can recall at this time the airspeed was about 130 KCAS and altitude 150 to 200 feet. I do not recall relaxing the forward stick, and the gyro at this time was still in the 15 to 20 degree up position, wings level. Almost immediately again the aircraft began to vibrate again. I glanced at the airspeed indicator and at this time it was reading approximately 80 to 90 KCAS decelerating. I immediately applied forward stick and glancing quickly at the AJB-3 saw that the degrees up had not changed. I immediately went to needle-ball and radar gyro which were now indicating  $\pm$  full left deflection of the needle and left bank on the gyro. Estimated altitude was 500 feet with the forward stick I applied right rudder and attempted to determine a neutral aileron position. The aircraft continued to shudder violently with airspeed still decreasing to remaining approximately 50 to 70 KCAS. Somewhere during this evolution I selected full afterburner on both engines.

At this time I called over the intercom - "Frank Eject! I'm going to leave now, Go" - at this time I was already reaching for the face curtain. As I grasped the face curtain I think I heard an explosion but cannot be sure if it was my canopy leaving or Frank's, if he fired his. I remember distinctly my legs being pulled aft as the seat fired. I immediately felt a mild tug which I surmise as the chute commencing to deploy, followed immediately by my lower body entering the water. At this time I reached for the parachute rocket jet fitting and got the right one off prior to my head going under and the left after my head was under water. There was no difficulty in getting these unfastened. My oxygen mask was on and I remember breathing O<sub>2</sub> while under water for about 5-10 seconds. Upon surfacing I actuated my MK-C3 which operated normally.

At this time I saw the ship begin to pass abeam and managed to get out my .38 and fire 1 or 2 tracers. I then actuated the seat pan handle and the life raft popped to the surface. I managed to get in that OK but was slightly tangled in the seat pan lanyards. Pulling both feet in the raft I was able to untangle this.

I then noticed a destroyer (later known to be the USS BAILY) bearing down on me. I fired two more tracers and while attempting to get to my life vest flares began waving my red flashlight which had remained with me throughout the ejection. The BAILY immediately put its spotlight on me and was alongside in about 1-2 minutes.

As she came alongside two of the men jumped in the water and swam to me. They pulled me (in the raft) to the boarding net amidships. As I started to board I could not climb as my block assembly had become tangled in the seat pan lanyard. After this was cut by one of the crew in the water, I boarded DD 728 with the assistance of the crew.

\* I retained all of my flight gear throughout and all systems of the Martin/Baker seat and related survival equipment worked as advertised.

The rescue effort of the BRILEY was considered outstanding in all respects. They informed me that they thought they saw a horizontal flash of my seat firing. They saw all the tracers, my red light, and my reflective tape on my helmet.

I was designated a naval aviator on 26 October 1956. I have a total of 1571 hours; 1319 hours jet, 276 hours in the F4H.

(b) (5)



(b) (6)

(b) (6)

LT, USN

Enclosure (1)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPN.VINST 3750.6D

25

Statement of LT (b) (6) USN, (b) (6) 1310, Pri-Fly Observer, concerning aircraft accident of F-4B (F4H-1) BuNo 148374

Being assigned the 2030 Pri-Fly watch, I arrived on station approximately 10 minutes prior to launch (2020 hours). I took position in the forward-most corner in Pri-Fly and observed Backwash #105 and #108 proceed through their post start checks as they were spotted on the angle, abeam the forward part of the island, facing inboard. Backwash 105 (BuNo 148374; pilot LT (b) (6)) was positioned aft of BW #108 (BuNo 149437; pilot CDR (b) (6)) and was therefore taxied forward first. The night red deck lighting was on and I observed his flaps in the full down position, pilot's cockpit lighting normal (barely visible). BW #105 taxied behind the blast deflector on #2 (A4D on catapult #2) and remained there until after the A4D was launched.

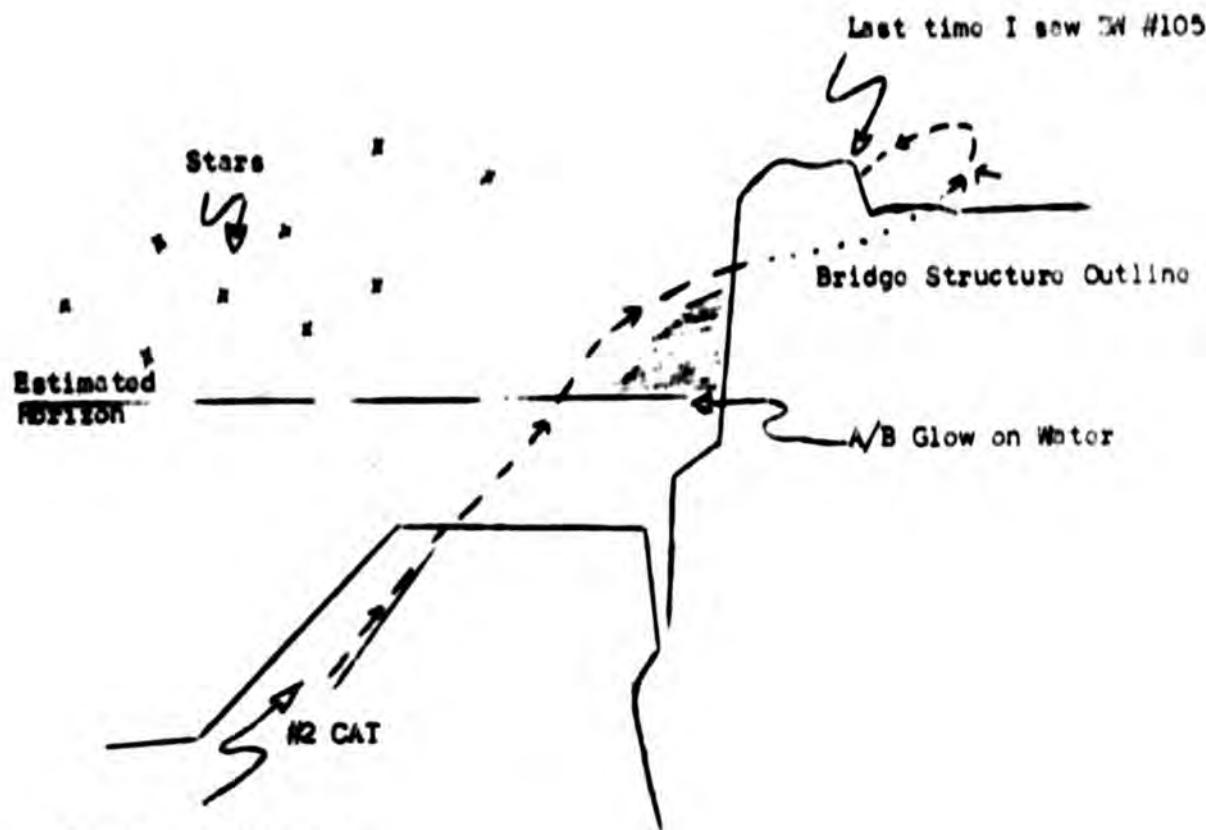
BW #105 was observed to have his nose strut extended, flaps full down, both engines appeared to be normal, lights on dim and steady, and stabilator indicated control stick was near full aft position upon launch. Flight after launch was initially traced by the tail light. The aircraft took up a positive rate of climb after launch and seemed to steadily climb and turn right disappearing behind the bridge structure as viewed from Pri-Fly. The rate of climb was much more steep than that made by the A4D's that launched ahead of BW #105. It was a dimly star-lit night and from Pri-Fly I could not distinguish a horizon off the bow, just the outline of the ship's forward flight deck area and stars above.

I remained at my position and moments later saw the tail light still tracing upward above the bridge structure, the turn to starboard seemed to have diminished. Seconds later I saw both afterburners light-off, and I tried to visualize what the pilot was doing by watching the burner tails. The afterburners had a perspective such that it was not a straight tail-on view but rather depicting the aircraft in a climbing attitude. For a moment I thought the aircraft was turning right as it started to level off, then after ceasing to climb relative to my line of sight it went into a port descending turn and again disappeared below the top of the bridge structure. After losing sight of BW #105 I watched the reflection of the afterburner glow on the water ahead of the ship as it was visible around the bridge structure. Then, about 3-5 seconds after the port descending turn was observed, the glow went out like a light. That was all that I witnessed. At no time did I see the wing and fuselage lights shift to bright and flashing.

Enclosure (2)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Rough flight path of BW #105 as viewed from Pri-Fly.



1. Flaps Full Down
2. Stick Aft
3. Wing & Tail Lights  
Dim & Steady

(b) (6)

(b) (6)

LT, USN

Enclosure (2)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Statement of LT [REDACTED] USN, (b) (6) /1310, LSO, near platform,  
concerning aircraft accident of F-4B (F4H-1) BuNo 148374

I was just coming upon deck aft of the LSO platform for the 2030 recovery when I heard an F-4B (F4H-1) turning up on #2 catapult. I stopped next to the LSO windscreen to observe the launch. Immediately after the launch off the #2 cat the aircraft (F-4B) commenced a higher than normal climbout. Shortly thereafter I observed both afterburners in operation and momentarily looked away. When I looked at the aircraft again I saw what appeared to be a ball of flame headed downward at the water. (b) (5)

(b) (5)

(b) (5)

I told the other officers on the platform I had seen an F-4B go into the water off the bow, which they believed since none else had seen it. I grabbed the nearest phone I could get my hands on, which turned out to be the ARC-27, and called Primary. I informed them I had seen an F-4B go into the water ahead of the ship. Primary seemed doubtful, as none there had seen it either. I then threw down the ARC-27 and grabbed the LSO's sound powered phone and talked direct to Primary. I repeated what I had seen and about this time a tracer was fired abeam the island about 30 seconds later. LTJG (b) (6) VF-103 who was on the LSO platform, said someone was in the water between two flares thrown over from FORRESTAL. A destroyer came up to this position and I observed one more tracer just off its starboard bow. I saw nothing else.

(b) (6)

(b) (6)

LT, USN

Enclosure (3)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Statement of LT [REDACTED] (b) (6) USN, (b) (6) /1100, OOD USS FORRESTAL  
(CVN-59), concerning aircraft accident of F-4B (F4H-1) BuNo 148374

On the night of 27 October 1962, I was OOD aboard the USS FORRESTAL (CVN-59) on the 20-24 watch. About 2035 my JOOW called my attention to an aircraft which he believed to be in burner. The aircraft was just launched and was slightly off the starboard bow. The JOOW then yelled, "Aircraft in the water." I looked up only to see a light which resembled a "Roman Candle" type flare entering into the water on my starboard bow. I did not see an explosion or fire of any type, nor did I see the plane in burner. (b) (5)

(b) (5) After notifying the rescue destroyers of the crash, I observed a red flare off my starboard bow. The flare traveled straight up, was a very bright red-orange, and traveled at a very high speed. I notified the destroyers of the sighted flare. Shortly thereafter another similar flare went off of my starboard beam. The destroyers again were notified. The quartermaster was instructed at this time to throw signal flares over. Shortly thereafter, another flare was fired off my starboard quarter. The flare was fired approximately 200 yards to the west of the quartermaster's signal flares.

The destroyers were notified again where we thought the pilot was in reference to the signal flares. Shortly thereafter, the USS BAILY reported that they had a man in sight and then proceeded to pick him up.

(b) (6)

LT [REDACTED] USN

This witness is considered to be a creditable witness.

Enclosure (4)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Narrative from USS JON.S INGRUM (DD-938), concerning aircraft accident of F-4B (F4H-1) BuNo 148374.

28 October 1962

USS JON.S INGRUM (DD-938) Narrative Re Downed C.G-8 Air Craft, 27 October 1962

At 2030B, 27 October JON.S INGRUM was 6½ miles on port beam of FORRESTAL. At 2035½B, word was received on PRITAC that ✓C was in the water. JON.S INGRUM turned toward the reported position of the ✓C, observing that BAILEY and GOODRICH were also headed towards the crash scene. During the turn, 3 red Very shots were observed from the crash position. Screen commander directed JON.S INGRUM assume duties as R/DD at 2042 since BAILEY and GOODRICH at crash scene and FORRESTAL still recovering aircraft. BAILEY reported pilot on board at 2051. At 2149 R/DD duties completed, detached to join search for second crewman of the downed aircraft.

Search line consisting of JON.S INGRUM, HUNTINGTON, GOODRICH, and BAILEY continued search throughout the night. Search was adjusted to datum at daylight. Search details are shown in accompanying DRT traces.

At 0626B, 28 October, lookouts spotted a slick approximately 800 yards long by 200 yards wide at the position of datum as shown on the DRT. Small pieces of debris were sighted in the slick area, and INGRUM and GOODRICH commenced maneuvering to recover. First object recovered at 0640 was a burned out light marker, Mark 6, Mod 3, probably placed in the water the previous evening by one of the DD's to mark the crash area. Next object recovered was a brown plastic covered foam rubber pad about 4" x 3". Next object picked up at 0720 was a piece of ✓C fuselage, about 1½' square, white on its external side and insulation on the opposite side. A small piece of muscular flesh was attached. Recovered in short order thereafter, in order, were: a tan leather glove with "USN" on it, a part of a rubber earphone cover, a small piece of epidermis apparently from arm or leg, a large piece of epidermis with scalp attached, and the dye marker packet from a life jacket. There were numerous other very small pieces of debris in the water, about 1" or 2" in diameter, not recovered, which resembled the pieces of epidermis which were recovered. Last piece of debris recovered was at 0815B. All debris was within the slick and a 200 yard radius of the light marker.

Dr. [b] (6) from the FORRESTAL came on board at 1026, examined the recovered debris, and departed with debris in his possession at 1118.

Ship's position throughout above narrative is shown in attached DRT's. Approximate position of downed ✓C was 39°-29' N, 14°-14' E.

/a/ Robert Kirk  
ROBERT KIRK  
Commander, U.S. Navy  
Commanding Officer  
USS JON.S INGRUM (DD-938)

-Authenticated-

(b) (6)

(b) (6)

LT, 1964

Enclosure (5)

Statement of LT (b) (6) USN, (b) (6) 6602, Catapult Officer,  
concerning F-4B (F4H-1), BuNo 148374

As Bow Catapult Officer, I launched F-4B (F4H-1) side number 105, at 2033 hours on 27 October 1962. The hook-up of the aircraft to the catapult was in all respects normal and correct. I observed nothing unusual during the launch.

Statistics of the catapult launch are as follows:

Type catapult: C-7 Steam - Port Bow

Type A/C and Weight: F-4B (F4H-1) - 48000 pounds

Wind over deck: 30 knots - axial

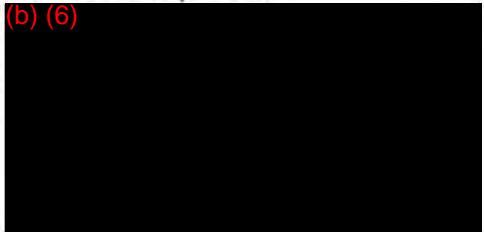
End speed: 139 knots

Excess over bulletins: 21 knots

Configuration remarks: Full flaps

I consider the launch above normal in all respects.

(b) (6)



Enclosure (8)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMINT 3750.6D

Statements of Plane Captains

Statement of (b) (6), nDJ3, (b) (6) USN, concerning aircraft accident of F-4B(F4H-1) BuNo 148374

After the plane landed, I put the chains on and started to preflight. I checked the air and hydraulics. PC1 and PC 2 were OK, but the utility was down to refill. I had trouble finding a hydraulic fitting and had to refill it while the pilot and RIO were being strapped in. I fueled the plane (full internal, plus drops) and straightened the cockpits. I found no hydraulic leaks. The starboard tire was changed. I didn't check the oil. It was checked for us and we were told it didn't need any tonight.

(b) (6)



Statement of (b) (6), nn, (b) (6) USN, concerning aircraft accident of F-4B(F4H-1) BuNo 148374

After the plane came in from the last launch, we recovered it and helped the pilot and the RIO out of the cockpit.

We fueled the plane. The airframes troubleshooters changed a flat tire. Then we filled the utility hydraulic system, checked out the cockpits and got them ready for the next launch. We checked the hydraulics and all the air bottles. Then we went around the outside of the plane and checked the outside. The new pilot and the RIO we helped into the cockpit and strapped them in and then the plane captain and I checked the signals for control checks after we hooked up the starters. We then unhooked the starter, took the chains off, and it was ready for flight.

(b) (6)



Enclosure (9)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPN.VIN&T 3750.6D

Statement of (b) (6), ADJ1, (b) (6) USN, Line Petty Officer,  
concerning aircraft accident of F-4B(F4H-1) BuNo 148374.

I approached the aircraft first when the pilot and RIO were entering the cockpits. Pod and driver were standing by for hookup to the aircraft. (b) (6) the plane captain, was servicing the utility system reservoir and (b) (6) ADJ1, assisted. When systems were serviced, all doors were secured and the starter px' was connected and word passed to start engines. Profight of controls were checked and okay. The aircraft was then spotted on #2 cat and was ready to go. I monitored the nozzles at the time the aircraft went to full power, all indications were normal and the aircraft was launched. The aircraft went straight out and seemed to be flying in a level attitude. I then lost the aircraft due to the steam coming from the catapult. I then turned my attention on aircraft 108 coming up to the port cat and did not see aircraft 105 again.

(b) (6)

(b) (6)

/ADJ1

Enclosure (10)

Statement of LCDR (b) (6), USN, (b) (6)/1310, concerning aircraft accident of F-4B (FAH-1) BuNo 148374 at 2034, 27 October 1962, from USS FORRESTAL (CVA-59).

F-4B (FAH-1) BuNo 148374 was properly daily, preflight and postflight inspected in accordance with NAVWEPS 01-245-FDA-6-1 Inspection Card set dated 15 May 1962, still current and in effect. This aircraft, Backwash 105, was considered flyable and mission ready in all respects. See attached statements from Night Maintenance Officer, Night Maintenance Chief Petty Officer, and Flight Deck Line Petty Officer (Plane Captain Supervisor). The material condition of this aircraft was considered very good as the aircraft had flown several "No Gripe" flights since coming out of Major Calendar Inspection.

The following Urgent Action Aircraft Service Changes Coded "F" had not been incorporated in F-4B (FAH-1), BuNo 148374:

<u>ASC</u>	<u>DIVISION</u>	<u>NOMENCLATURE</u>
74	AIRFRAMES	MLG Door mechanism; replacement of bellcrank.
83	AIRFRAMES	Replacement of Ram Air Turbine Sequence Valve.
85	POWERPLANTS	Addition of Fuse and Replacement of oil pressure transmitter in system.
101	ELECTRICAL	Re-routing of wire bundle to Stabilator Power Control Cylinder. "Kits on Order".
104	AIRFRAMES	Launching Gear, modification of Cat Hook Pan Ass'y. This aircraft had the Interim Factory Fix.

Chronological history of BuNo 148374 and maintenance performed on aircraft for 13 Yellow "B" Shoots prior to the accident follows:

Months in service - 13

Total aircraft hours - 401.4

Last check pulled was 3rd calendar Major - completed 4 September 1962.

Total flights since check - 31

Total hours since check - 51.0

Total arrested landings - 133

Total arrested since check - 31 and 1 Bolter

<u>DATE</u>	<u>DURATION OF FLIGHT</u>	<u>DISCREPANCY</u>	<u>CORRECTIVE ACTION</u>
10-26-62	No Flight	1. Hydraulic leak just forward (Ready Gap) X of door 16	1. Replaced elbow
10-27-62	1.5	1. Left hand wing light out 2. Spots of yellow paint on inside of Pilot's L/H windscreens	1. Replaced bad bulb 2. Trouble Shooters notified & corrected same

X - Denotes Known Grips.

Enclosure (11)

OPTIONAL FORMS REQUIRED IN ACCORDANCE WITH COMARINENT 3750.6D

<u>DATE</u>	<u>DURATION OF FLIGHT</u>	<u>DISCREPANCY</u>	<u>CORRECTIVE ACTION</u>
		3. Check APN-22 calibration - believe it's indicating about 70 ft above actual altitude.	3. Pulled APN-22 and Calibrated. Re-installed. Checked 4.0.
		4. Radar - See radar sheet.	4. Tried to get trouble to reoccur on deck, but failed; checked security of scope. Set up antenna. Aligned ICU.
		5. Needle & ball slightly out to right when in balanced flight.	5. Tusted.
10-17-62	1.5	1. Stab Aug kicks out on take-off (Cat Shot).	1. Checked Stab Aug system 4.0 was O.K. on all subsequent hops.
10-17-62	1.6	No Grips	-----
10-17-62	1.3	1. Used O2 extra rapid. May be RIO Block and not airplane.  2. Radar - See Sheet.	1. Had wrong type block in RIO mask. Changed  2. Tried to get trouble on deck, could not. Checked scope security. Set-up antenna, horizon amplifier AD
10-17-62	1.2	No Grips.	-----
10-21-62	1.3	No Grips	-----
10-21-62	No Fly Down on Cat	X 1. Hyd leak, nose strut.	1. Changed nose strut. Drop checked and serviced new strut; changed emerg l.g. line and stbd nose tire. Everything checked O.K.
10-22-62	1.2	1. Windshield overheat light on at all times	1. Replaced temp sensor. Checked O.K.

X = Denotes Down Grips.

Enclosure (11)

ALL INFORMATION CONTAINED IS IN ACCORDANCE WITH OPNAVINST 3750.6D

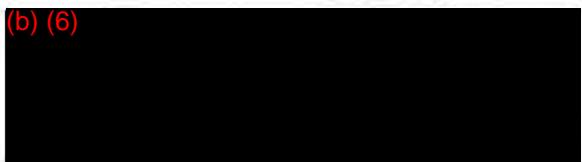
<u>DATE</u>	<u>DURATION OF FLIGHT</u>	<u>DISCREPANCY</u>	<u>CORRECTIVE ACTION</u>
		2. Oxygen usage high - 6 liters in one hour. 3. ANCS computer bad - in range function & dot.	2. Found LOX line leaking. Replaced supply line. 3. Replaced tube in T150 regulator circuitry - Aligned Sync.
10-22-62	1.8	1. Rudder Indicator port sub panel off 150 deg. 2. No approach lights (nose wheel). 3. O2 usage high - used 9 liters during flight. 4. Windshield high light on all hop.	1. Rudder and Indicator visually checked O.K. by Maint Off, pilot and line CPO. 2. Fixed two broken wires. Checked good. 3. Found LOX supply line leaking - replaced line. 4. Replaced temp sens. Checked good.
10-25-62	1.6	1. DPF 2. Cockpit dirty - full of dirt and loose material	1. Changed unit #4. Checked good on de. 1. Plane captain notified, and line officer for action.
10-25-62	No Fly Down on GAT	I 1. Hyd leak port leading edge flap. I 2. Radar down - See Sheet I 3. RIO has O2 leak which sounds like it is between upper & middle block. 4. Port wing light out.	1. Tightened "B" nut, checked for leaks. Found it O.K. 2. Replaced tube in T150 regulator circuitry line sync. 3. Replace "O" ring. 4. Changed by troubleshooters.

I - Denotes Down Grip.

Enclosure (11)

<u>DATE</u>	<u>DURATION OF FLIGHT</u>	<u>DISCREPANCY</u>	<u>CORRECTIVE ACTION</u>
10-27-62	1.7	1. No port wing light. 2. Rudder indicator off 150°.	1. Changed by trouble-shooters. 2. Not worked off (previous gripe). Visually checked by the pilot and Line P.O.

(b) (6)



Enclosure (11)

ALL INFORMATION CONTAINED IS UNCLASSIFIED BY SPNAVINST 3750.60

**Attachment 1 to Maintenance Officer's statement**

**Statement of VF-74 Night Maintenance Officer pertaining to F-4B(F4H-1) 148374 Accident and crash at sea 2034 on the evening of 27 October 1962  
USS FORRESTAL (CVA-59).**

On October 27 at 1914 F-4B(F4H-1) BuNo 148374, side No. 105 landed aboard USS FORRESTAL (CVA-59) in an up status, after a flight of 1.7 hours. The pilot LT [REDACTED] (b) (6) gave the status as up when he taxied by flight deck control. After a post flight check by the flight deck trouble shooters, a pilot de-brief by the night maintenance CPO, and a review of the AIRCRFT FLIGHT RECORD "B" SECTION by himself and the CPO; the aircraft was scheduled for the 2030 launch. Review of the "B" sheet showed several minor discrepancies.

1. No LH wing light
2. Rudder indicator 150° out of phase.

The wing light was replaced prior to the 2030 launch, and an up work order was issued on the rudder indicator. To the best of my knowledge this aircraft was safe for flight and standard maintenance procedures were used by all personnel concerned.

(b) (6)

(b) (6)

ENS, USN

Enclosure (11), Attachment 1

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

Attachment 2 to Mail Finance Officer's statement

Statement of VP-74 Night Maintenance Chief Petty Officer pertaining to F-4B(F4H-1) 148374 Accident and Crash at sea 2034 on the evening of 27 October 1962 USS FORRESTAL (CVn-59).

On the evening of 27 October 1962 at 1914 F-4B(F4H-1) BuNo 148374 was recovered onboard CVn-59 and was given by the pilot, LT (b) (6), as an up aircraft as it taxied by flight deck control. Due to the lack of availability, the subject aircraft was anticipated as a turn around aircraft for the 2030 event. The recovered pilot, LT (b) (6) reaffirmed the aircraft as being an up aircraft. The subject Aircraft Flight Record "B" section was not reviewed by this CPO until 2000 at which time the following discrepancies were noted:

1. No LH wing light.
2. Rudder indicator 150° out of phase.

Work orders were issued on the above discrepancies and the "B" section of the aircraft Flight Record was signed by this CPO certifying that this aircraft was ready for flight. The LH wing light bulb was replaced prior to launching. At 2000 F-4B(F4H-1) 148374 was manned by LT (b) (6) and LT F. M. BOSTON. At about 2030 F-4B(F4H-1) 148374 was launched from USS FORRESTAL (CVn-59).

/s/ (b) (6)

Authenticated:

(b) (6)

(b) (6)

LCDR, USN

Enclosure (11), Attachment 2

Attachment 3 to Maintenance Officer's statement

Statement of (b) (6) ADJ1, (b) (6) USN, Flight Deck Line  
Petty Officer, concerning aircraft accident of F-4B(F4H-1) BuNo 148374.

On the evening of 27 October 1962 at 1800, I relieved (b) (6) JHC and assumed the responsibilities of VF-74 flight operations on the flight deck aboard the USS FORRESTAL (CV-59).

Aircraft # 105 had been pre-flighted on a turn around by (b) (6), ADJ3, in accordance with NW01-245FD-6-1 as he so stated in his statement. On his pre-flight, the only discrepancies he had encountered was the utility hydraulic system was down to refill and needed re-servicing. He then went behind the island and returned with the servicing cart and I helped him re-service the utility system.

In the meantime the pilots were manning the aircraft and as (b) (6) and I were securing the panel, I asked him if the plane was all set for flight. His response to my question was; Quote, "The plane is ready for flight", Unquote. I then assisted the second mech getting the starting pod hooked up to the aircraft while (b) (6) was returning the service cart to the island.

After starting this aircraft, I stood by (b) (6) while he was giving the pilot his control checks. All checks were satisfactory and the plane taxied to the catapult for launch. In the meantime, I double checked the aircraft for security leak, wing locks, etc.

Just prior to launch I got a thumbs up from the man checking the engine nozzles and in turn I gave the cat officer the signal to launch this aircraft.

The entire procedures that we use from day to day pertaining to this aircraft were normal and there was not any doubt in my mind when this aircraft was launched that it was not properly prepared or ready for flight in any way.

Immediately after the cat officer dropped his green wand and the plane started down the deck, I then turned to the next aircraft which was taxiing up and started the normal last minute check on it.

This is a true statement to the best of my ability.

(b) (6)

Enclosure (11), Attachment 3

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6D

## Resume of LT (b) (6) Flight Experience:

<u>PERIOD</u>	<u>AIRCRAFT FLOWN/HOURS</u>	<u>UNIT</u>
July '55 - May '56	SNJ/175 T28B/32	Basic Training
July '56 - Oct '56	TV-2/76 F9F/30	NAVANTRACOM
Nov '56 - Mar '57	SNB/J/31 F9F/1	F.SRON 9 Cecil Field
Mar '57 - Mar '59	SNB/14 TV-2/18 F2H-4/21 F4D-1/295 T28/2	VF-102
Apr '59 - Dec '60	F4D-1/437 TV-2/8 R4D/3	VF-101
Jan '61 - Jun '62	SNB/3 F4D/4 F3D/60 F4H/187 F9F-8T/36 F8U-2/3	VF-101 DET A
Jul '62 - Present	F-4B(F4H-1)	VF-74

<u>Month</u>	<u>Hours</u>	<u>Instrument</u>	<u>Night</u>
JUL	26.4	4.5h	6.3
AUG	18.6	1.3h, 0.9Nh	3.3
SEP	19.7	1.3h, 0.8Nh	1.3
OCT	23.7	2.8h, 3.9Nh	5.6

## Night Flights in October

OCT 9 - 2.3  
OCT 10 - 1.8  
OCT 17 - 1.5

It is noted that LT (b) (6) has had no periods of proficiency flying since commencing flight training. He has averaged over 200 hours per year primarily in jet type aircraft.

Authenticated:

(b) (6)

(b) (6)

LT, USM

Enclosure (12)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH CPM.VINST 3750.6D



PHOTOGRAPH Enclosure (6) VF-74 uR 3-62 F-4B (F4H-1) BuNo 148374

RECOVERED WRECKAGE

- |   |                          |
|---|--------------------------|
| A - Stbd Trailing Edge Outer Wing Panel | E - Hardhat Earphone Pad |
| B - Port Flap Trailing Edge             | F - Hardhat Pad          |
| C - Port Aileron Trailing Edge          | G - Right Glove          |
| D - ID Ducting                          | H - Dye Marker           |

Enclosure (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNL VI ST 37



PHOTOGR.PH. Enclosure (7) VF-74 .M.R 3-62 F-4B (F4H-1) BuNo 148374

RECOVERED RECKAGE

A - Star Trailing Edge Outer Wing Panel  
B - Port Flap Trailing Edge  
C - Port Aileron Trailing Edge  
D - A/C Ducting

E - Hardhat Earphone Pad  
F - Hardhat Pad  
G - Right Glove  
H - Dye Marker

Enclosure (7)

OFFICIAL HANDLING REQUIRED IN ACCORDANCE 10TH OF JUNI 1975 0.60

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 1  
 APPROVED FORM 5000-6 (Rev. 5-68) See OPNAVINST 3750.6C INSTRUCTIONS - SPECIAL HANDLING REQUIRED

SECTION A - IDENTIFICATION

1. Name (last and mailing address of activity)		2. AIRCRAFT NUMBER					
USS FOUNDRY (CVA-69) Care of Fleet Post Office, New York, N. Y.		12-63					
3. (b) (6)	4. Grade / Rating / Officer	5. DATE	6. APPROVAL FOR RELEASE (Signature of Appointing Authority) DATE				
(b) (6)	LT JC USNR	11-14-62	LT C. STONE, JR. 11-14-62				
7. TIME OF ACCIDENT	8. TIME AND DATE	9. DATE	10. GEOGRAPHICAL LOCATION				
<input checked="" type="checkbox"/> ACCIDENT	<input type="checkbox"/> INCIDENT	2035A	10-27-62 Mediterranean Sea				
10. MODEL A/C	11. TIME	12. NO. OF OCCUPANTS	13. TYPE ACCIDENT	14. DAMAGE CODE	15. UNIT OPERATING A/C	16. REPORT NO.	
F-4D (F4H-1)	140374	2	B8	ALFA	VF-74		
17. OTHER INFORMATION - USE ADDITIONAL SHEET (Last, first and middle initials)		18. UNIT TO WHICH ATTACHED		19. GRADE	20. GRADE	21. GRADE	22. GRADE
(b) (6)		VF-74		LT	(b) (6) 1315	Pilot	USN D X
BOSTON, Frank H.		VF-74		LT	(b) (6)	RIO	USNR A X
4.							
23							
24.							
25. GRADE AND INITIALS OF ASSISTANT (See instructions at the place marked if required)							

SECTION B - MEDICAL OFFICER'S QUESTIONNAIRE

(If "NO" state reason in space below.)

YES NO DID THE FLIGHT SURGEON:

1. VISIT THE SCENE OF THE ACCIDENT?	Search was conducted by destroyers and SHO CVA-69		
2. PARTICIPATE FULLY IN THE FIELD INVESTIGATION?			
3. PARTICIPATE FULLY IN THE INVESTIGATION OF THE A/C ACCIDENT?			
4. IN FIELD INVESTIGATION	5. IN CHAMBER CALIBRATIONS	6. IN PREPARATION OF THIS REPORT	
OF THE FLIGHT SURGEON?	12	12	18

1. MEDICAL RECORDS LIST  
 MEDICAL RECORDS  
 MEDICAL RECORDS

2. PHOTOS

3. MEDICAL EQUIPMENT

4. MEDICAL COPIES

## NARRATIVE OF THE ACCIDENT

After a thorough briefing, pilot LT (b) (6) and RIO LT BOSTON together did the external preflight inspection of F4H-1 BU NO 148374 and each checked his own Martin Baker seat. No discrepancies were noted. The take off check list was verbally read off and acknowledged by LT BOSTON. After taxiing onto the catapult, throttle were advanced to 100%, instruments checked, and acknowledgement received from LT BOSTON that he was ready to go.

The cat shot was normal except that LT BOSTON did not give the pilot the cat end speed as he had done on every cat shot in the past. Since there was no visual external horizon, the climbout was begun on instruments. The pilot saw 150 kts. CAS on the airspeed indicator and a glance at the rate of climb and altimeter confirmed that the aircraft had established a positive rate of ascent. The attitude gyro indicated 18 degrees of climb.

Landing gear was being retracted and at the same time the A/C began to vibrate slightly. This was corrected with a little stick forward at about 130 kts. and 150-200 feet altitude, gyro still reading 15-20 degrees up and wings level. Almost immediately the A/C began to vibrate again, the airspeed 80-90 kts., AJB3 indication was unchanged, but needle ball and radar gyro indicated  $\frac{1}{2}$  full left deflection and left bank at about 500 feet altitude. While the pilot was trying to correct the situation airspeed dropped to 50-70 kts. and he applied after burner to both engines.

At this time the pilot called over the intercom, "Frank eject! I am going to leave now! Go!" At this the pilot was already reaching for his own face curtain. He thought that he heard an explosion but couldn't be sure if it was his own canopy leaving or that of the AIO. He distinctly remembers his legs being pulled aft as the seat fired. He immediately felt a mild tug, followed instantly by the lower half of his body entering the water. He reached for the rocket jet fittings and released the right one prior to his head entering the water and his left one after being submerged. He encountered no difficulty. His oxygen mask was still on and he was breathing O2 for about 5-10 seconds while submerged. Upon surfacing he activated his MKC3 life vest which operated normally.

At this time he saw the USS FOULDS pass abeam. He pulled out his .38 and fired one or two tracers. Next he activated the seat pan handle and saw the raft pop up on his right side. While climbing into the raft his left leg became entangled in the seat pan lanyard, but managed to free himself after pulling both legs up onto the raft.

He then saw a destroyer (USS BAILEY) bearing down on him, and fired two more tracers. While trying to pull out a life vest night flare he began waving his two cell red lens flash light which was hooked to his tunic by an alligator clamp. The destroyer immediately put a spot light on him and he was along side in about 1-2 minutes. Two of her crew members jumped into the water and pulled the raft with him in it to the boarding net. When attempting to board he was restrained by

his block assembly which was entangled in the seat pan lanyard. One of the rescue crew in the water cut the lanyard, then assisted him in boarding the destroyer.

He retained all of his flight gear and all systems of the Martin Baker seat and related survival equipment worked as advertised.

Personnel of the rescue ship informed him that they thought they saw a horizontal flash of his seat firing. They also saw all the tracers he fired, the red lens flashlight he waved and the reflective tape on his helmet. The latter three items of survival equipment aided them greatly in determining the pilot's position in the water in a very short time.

Twelve hours after the accident parts of the aircraft and remains of LT BOSTON were found in the center of an oil slick in the area of the crash.

## SECTION C - PHYSIOLOGICAL, HUMAN ENGINEERING, DESIGN, SOCIO-PSYCHOLOGICAL, AND TRAINING FACTORS WHICH CONTRIBUTED IN SOME DEGREE TO THIS A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT

NAME OF INDIVIDUAL (Last, First, Middle)

MODEL AFM

(b) (6)

F4B (F4H-1)

**CHECK** **P** = Present, **S** = Suspected, or **I** = Present for each factor selected. Additional AFM 100 plain sheets will be used for the supplementing amount of items checked below. Identify each statement with the factor and section identification (e.g., C1, C2, etc.). Attach all sheets pertaining to these factors to this form upon completion.

C S P	✓ FACTORS	E S P	✓ FACTORS
	<b>PHYSIOLOGICAL:</b>		<b>SOCIO-PSYCHOLOGICAL: (Emotional stress from non-duty sources)</b>
	1. Physically incapacitated in flight		29. Expeditions/Delays
	2. "G" forces		30. Weather
	3. Environmental stress - External	X	31. Mechanical Problems
	4. - Internal		32. Social and working relationships
	5. Dysbarism/explosive decompression		33. Personal comfort
	6. Diet		34. Regulations
	7. Fatigue		35. Facilities
	8. Hypnosis		36. Navigation
	9. Related illness		37. Duty assignment
	10. Vertigo/Diseorientation/Illusions		38. Personality traits
	11. Hyperventilation		<b>NON-DUTY FACTORS:</b>
	12. Drugs		39. Faculty attention
	13. Physical state		40. Poor judgement
	14. OTHER		41. Forgetfulness
	<b>HUMAN ENGINEERING AND DESIGN:</b>		42. OTHER SOCIO-PSYCHOLOGICAL FACTORS
	15. Personal equipment		
	16. Displays and/or controls		
	17. Work arrangement		
	18. Working environment		
	19. Habit interference		
	20. OTHER		
	<b>SOCIO-PSYCHOLOGICAL: (Emotional stress from non-duty sources)</b>		
	21. Pregnancy		<b>TRAINING FACTORS:</b>
	22. Illnesses or death		43. Physiological training
	23. Arguments		44. Emergency Procedures training
	24. Elated/Depressed state		45. Survival and rescue training
	25. Personal habits - Drinking		46. Refresher training
	26. - Sex		47. Transition training
	27. - Gambling		48. OTHER
	28. - Debts		

## SECTION D - AIR CREW DATA (Fill in where applicable)

1. Flight time past 30 days	25.6	7. Total time in model	270
2. Flight time last 24 hours	1.7	8. Number of days grounded last month, give reason	
3. Number of flights in last 24 hours	2		None
4. Time at controls this flight	20 Seconds	9. Number of and dates of previous accidents	
5. Number of hours duty last 24 hours	32	ATU 203 UNK-56 of 7 Oct, 56	
6. Total flight time	1573	VF202 UNK-56 of 17 Nov, 56	

## SECTION E - CONTRIBUTING FACTORS AND THEIR ANALYSES (to be condensed from Part I, Sect. E and Part VIII of the AFM)

Fill in this section only on that set of forms prepared for FIRST individual listed in Section A, i.e., 18(a). Attach additional sheets as necessary.

See attached sheet

## SECTION E. CONTRIBUTING FACTORS

### PART I (Condensed from AAR)

- (1) Material failure of attitude gyro, probably mechanical.
- (2) Absence of visible horizon.
- (3) Failure of pilot to recognize "partial panel situation."

### ANALYSIS

#### PART VIII

- (1) Lack of visible horizon and failure of attitude gyro at such a low altitude placed the aircraft in an untenable situation quickly.
- (2) Aircraft decelerated so rapidly that the pilot could not perceive the rudder shaker before full stall was reached.
- (3) A full stall could have been avoided only if the pilot had been able to recognize the attitude gyro failure immediately after the cat shot.
- (4) With the wreckage unrecoverable, the nature of the gyro failure cannot be determined by this board.
- (5) All survival gear used by the pilot worked perfectly. His .38 caliber revolver was secured to his gunbelt by a lanyard and enabled him to drop it after each use instead of having to replace it into the holster.
- (6) The difficulty often encountered in boarding the MK2 life raft while wearing an inflated MK-3C life vest was avoided by this pilot through the unorthodox approach of pulling the raft from behind him under his buttocks.

#### (A) PERSONNEL FACTORS

- (1) Even though the pilot had no night hop for 10 days preceding the accident, it is doubtful whether any pilot with equal proficiency could have recognized the gyro failure in time to avoid a crash.
- (2) No evidence is available to suggest that the RIO attempted to eject, although his previous training should have enabled him to make that decision.

#### (B) SUPERVISORY FACTORS

- (1) None

#### (C) MATERIAL FAILURES

- (1) The pilot's attitude gyro (AJB-3) froze in the 15-20 degree nose up, wings level attitude and told him that he was climbing out properly when, in fact, his attitude was too high and increasing.
- (2) LT BOSTON did not call end air speed as was his practice. This suggests the possibility of an ICS malfunction resulting from the cat shot and failure to hear the order to eject. (b) (5)

(b) (5)

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 8  
OPNAV FORM 8700-93 (5-68)

OPNAV REPORT 8700-93

## SECTION F - SAFETY, PERSONAL, AND SURVIVAL EQUIPMENT

Prepare a narrative account of damaged or failed items. Identify each item discussed (e.g., PI, PB, etc.)

NAME OF INVESTIGATOR (Last, First, middle)

MODEL 170

(Y4U) (YAU-1)

(b) (6)

GENERAL DESCRIPTION OF EQUIPMENT	AVAILABILITY		SPECIFIC MODEL OR TYPE	OTHER EQUIPMENT		FAILURES	DESCRIPTION OF DAMAGE TO EQUIPMENT
	YES	NO		YES	NO		
1. Shoulder harness	X		105 Ball Seat	X			
2. Lap belt	X		Survival kit-type	X		X	
3. Inertia reel	X		10K-5 II seat	X		X	
4. G-Suit	X		Z-3 cut away	X		X	
5. Pressure suit-full or partial	X			X			
6. Pressure suit	X			X			
7. Flight suit (other than above)	X		Summer orange	X		X	
8. Helmet	X		AHII-5	X		X	
9. Goggles/Eyeshield	X		Tinted visor		X		
10. Shoes	X		Iron age	X		X	
11. Gloves	X		Summer	X		X	
12. Life vest	X		10-3C	X		X	
13. Life raft	X		PK-2	X		X	
14. OTHER:							
15. SIGNAL DEVICE - Flare (Night)	X		M-13 MOD-0			X	
16. - Flare (Day)	X		MK-13 MOD-0			X	
17. - Dye marker	X		Sea Ave Mark (NOIC)			X	
18. - Radio	X						
19. - Flashlight	X		MAEWEST One Cell			X	
20. - Mirror	X		Signalling			X	
21. OTHER:							
22. SURVIVAL GEAR - Knife	X		Survival			X	
23. - First aid kit	X		PSK-2			X	
24. - Shelter	X		Poncho PK-2			X	
25. - Food	X		LA Food Packet		(2)		
26. OTHER:							
27. RESCUE - Vehicle	X		Destroyer	X		X	
28. - Sling, Net, Stretcher	X		Net	X		X	
29. OTHER:							

## SECTION G - DETAILED EQUIPMENT QUESTIONNAIRE

1. MASK - MODEL OR TYPE <b>A13-A</b>	2. MODIFICATIONS, IF ANY <b>Sierra Fittings (1)</b>		
3. REGULATOR - MODEL OR TYPE <b>Bendix C-1 (6)</b>	4. MODIFICATIONS, IF ANY		
5. PREFLIGHTED BY USER? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	6. IF NO, WHY NOT	7. LIST DISCREPANCIES NOTED BY PREFLIGHT CHECK	
8. OXYGEN SUPPLY: <b>8 LITERS (Liquid)</b>	9. PRIOR TO FLIGHT <b>P.S.I. (Gas)</b>	10. TIME OF ACCIDENT <b>Unknown</b>	11. WAS OXYGEN IN USE AT TIME OF ACCID. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
12. IF YES, GAS SELECTOR SETTING <input type="checkbox"/> 100% <input type="checkbox"/> NORMAL	13. WAS ALL OXYGEN EQUIPMENT NECESSARY FOR THIS FLIGHT AVAILABLE? IF NO, LIST ITEMS AND REASON WHY <input type="checkbox"/> YES <input type="checkbox"/> NO	14. TYPE CHUTE RELEASE DEVICE <b>Martin Baker (1)</b>	
15. WAS GAS OXYGEN MASK RECEIVED AT ANY TIME IN FLIGHT? IF YES, GIVE DURATION AND REASON. <input type="checkbox"/> NO <input type="checkbox"/> YES		16. TYPE HARNESS RELEASE DEVICE <b>Rockett Jet (2)</b>	
17. WHEN WERE RELEASE DEVICES ACTIVATED? <b>While submerged in Water (3)</b>		18. WERE DIFFICULTIES ENOUNTERED WITH RELEASE DEVICES? IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
19. WERE DIFFICULTIES ENOUNTERED AFTER ACTIVATING RELEASE DEVICES? IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DID LIFE JACKET INFLATE PRIOR TO ACTIVATING RELEASE DEVICES? IF YES, WHAT DIFFICULTIES DID THIS PRODUCE? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

## SECTION 6 - DETAILED EQUIPMENT QUESTIONNAIRE (Continued)

NAME OF INDIVIDUAL (Last, first, middle)

MODEL A/C

(b) (6)

F4U (F4U-1)

13. INTEGRATED HARNESS SYSTEM, MODEL/TYPE <b>HA-2</b>		14. INTEGRATED <input checked="" type="checkbox"/> FULL <input type="checkbox"/> PARTIAL	15. MODIFICATIONS, IF ANY STATE REASON <b>BUMPER'S AVIATION CLOTH &amp; SURVIVAL EQUIP.</b> INSTRUCTION #12-62
16. DID INTEGRATED HARNESS FIT PROPERLY? IF NO, LIST DISCREPANCIES IN FIT AND GIVE REASONS THEREFOR <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES			
17. INTEGRATED HARNESS FITTING WAS CONDUCTED BY: <input type="checkbox"/> DOCTOR <input type="checkbox"/> FLIGHT SURGEON <input checked="" type="checkbox"/> PARACHUTE RIDER <input type="checkbox"/> AVIATION EQUIPMENT OFFICER <input type="checkbox"/> OTHER			
18. IF SHOULDER HARNESS WAS USED, GAS TYPE: <input checked="" type="checkbox"/> LOOSE <input type="checkbox"/> UNLOOSE <input type="checkbox"/> TIGHT <input type="checkbox"/> BLACK <input type="checkbox"/> OTHER CONDITION			
19. TYPE HELMET <b>AHU-6</b>	20. LIST PREVIOUSLY MODIFIED <b>Sierra Fittings</b> (1)		
21. OTHER MODIFICATIONS AND REASON FOR THEM <b>See attached sheet</b> (5)		22. DID HELMET FIT PROPERLY? IF NO, GIVE REASON <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
23. HELMET FITTING WAS CONDUCTED BY: <input type="checkbox"/> DOCTOR <input type="checkbox"/> FLIGHT SURGEON <input checked="" type="checkbox"/> PARACHUTE RIDER <input type="checkbox"/> AVIATION EQUIPMENT OFFICER <input type="checkbox"/> OTHER			
24. TYPE CHUTE <b>100 FAU15</b>	25. LAST PACKING DATE <b>10-17-62</b>	26. MODEL/TYPE BAILOUT DEVICE <b>Scott seat kit (3)</b>	27. AUTOMATIC RIGGING, IF INSTALLED (Model and type) <b>None</b> (3)
28. DID AUTOMATIC RIGGING FAIL? IF YES, WHY? <input type="checkbox"/> NO		29. WAS RIGGING ACTIVATED <input type="checkbox"/> MANUAL <input checked="" type="checkbox"/> AUTOMATIC	
30. IF MANUALLY ACTIVATED STATE REASON AND ANY DIFFICULTIES ENCOUNTERED			
31. DID CHUTE OPEN IMMEDIATELY? IF NO, GIVE REASON <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		32. ALTITUDE THAT CHUTE OPENED <b>less than 500 feet</b>	
33. REPORTING CHUTE OPEN <input checked="" type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE		34. BODY ATTITUDE AT OPENING <b>UNKNOWN</b>	
35. CHUTE OSCILLATION PRESENT? <input checked="" type="checkbox"/> NONE <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE		36. IF OSCILLATION WAS PRESENT, HOW WAS IT STOPPED	
37. WEATHER CONDITIONS DURING DESCENT (List in sequence) <b>Clear</b>		38. TOPOGRAPHY OF LANDING SITE <b>Calm sea</b> (8)	
39. GAS BAILOUT OXYGEN CONNECTED <input checked="" type="checkbox"/> BEFORE EXIT <input type="checkbox"/> AFTER EXIT <input type="checkbox"/> NO <input type="checkbox"/> N.A.		40. GAS BAILOUT OXYGEN USED? IF NOT, WHY? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
41. WHEN WAS IT ACTIVATED? <input checked="" type="checkbox"/> BEFORE EXIT <input type="checkbox"/> AFTER EXIT		42. GIVE DIFFICULTIES ENCOUNTERED WITH BAILOUT OXYGEN AND THEIR CAUSE, IF ANY	
43. WAS CHUTE HARNESS <input type="checkbox"/> TIGHT <input checked="" type="checkbox"/> SOFT <input type="checkbox"/> LOOSE		44. WAS A SITTING POSITION IN SLING OBTAINED DURING DESCENT? IF NOT, WHY? <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NOT ATTEMPTED	
45. SEAT CUSHION IF PROVIDED (Model/Type) <b>(6)</b>		46. WAS PARACHUTE LANYARD CONNECTED TO LIFE VEST OR KINST? IF NOT, WHY? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES	
47. LIST TYPE OF PARACHUTE TRAINING COMPLETED BY THIS INDIVIDUAL <b>None</b>			
48. IF CHUTE WAS USED TO RELEASE PARACHUTE DURING DESCENT, WAS RELEASE ACTIVATED IMMEDIATELY? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		49. IF NO, GIVE REASON <b>Chute opened just as pilot entered water</b>	
50. IF AIRCRAFT, EXPOSURE SUIT, FULL OR PARTIAL PRESSURE SUIT WAS WORN, DID IT FIT PROPERLY? IF NOT, LIST DISCREPANCIES IN FIT AND GIVE REASONS THEREFOR <input type="checkbox"/> YES <input type="checkbox"/> NO			
51. WAS CHUTE EQUIPPED WITH A SPRING-LADED DISCONNECT ADAPTER? IF NO, GIVE REASON <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES			
52. LIST ALL TYPES OF NON-INFLATED CLOTHING OR SURVIVAL EQUIPMENT UTILIZED <b>Two cell flashlight, fastened to torso with alligator clip.</b> (1)			
53. WAS ANY TYPE OF DISCONNECT EQUIPMENT USED? IF YES, STATE TYPE, WHEN USED, AND REASON FOR STANDARD. <input type="checkbox"/> NO <input type="checkbox"/> YES		54. WAS ANY TYPE OF DISCONNECT EQUIPMENT USED? IF YES, STATE TYPE, WHEN USED, AND REASON FOR STANDARD. <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	

#27. MODIFICATIONS ON APH-5 HELMET

- (a) BUAIr Aviation Clothing and Survival Equipment Bulletin #19-58.
- (b) BUAIr Aviation Clothing and Survival equipment Bulletin #35-60.
- (c) BUAIr Aviation Clothing and Survival Equipment Bulletin #1-60.

#31. Opening shock was followed instantly by entry into water.

(b) (6)

F4B (F4H-1)

S	E	S-SUSPECTED, E-ESTABLISHED			
		1. EJECTION - Attempted			
		<input checked="" type="checkbox"/> 2. - Accomplished			
		<input type="checkbox"/> 3. - Through canopy			
YES	NO	EJECTION DIFFICULTIES ENCOUNTERED:		14. EXIT DIFFICULTIES:	
		<input type="checkbox"/> 4. - Prior to			
		<input type="checkbox"/> 5. - During			
		<input type="checkbox"/> 6. - Subsequent to			
		7. Give type and model of seat used		15. ALTITUDE OR MAXIMUM ALT. AT EXIT OR IMPACT	
		<input type="checkbox"/> 8. BAILOUT - Attempted		16. ALTITUDE OR MAXIMUM ALT. AT EXIT OR IMPACT	
		<input type="checkbox"/> 9. - Accomplished		17. DISTANCE ABOVE SEA LEVEL	
10. ALTITUDE AT TIME OF EXIT <u>1000 ft</u> ABOVE SEA LEVEL				18. TOPOGRAPHY: <u>BLUFF</u>	
				19. COLLISION OF AIRCRAFT WITH GROUND <input type="checkbox"/> WATER <input checked="" type="checkbox"/> UNKNOWN	
				20. CONTROLLED BY YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> UNKNOWN	
21. CLOUD POSITION AT EXIT OR IMPACT OPEN <input type="checkbox"/> CLOSED <input checked="" type="checkbox"/> JETTISONED				22. SEA STATE: <u>Calm</u>	
				23. AIR TEMP: <u>66.5°</u>	
				24. WATER TEMP: <u>71°</u>	
				25. ALTITUDE: <u>0 ft</u>	
				26. TIME: <u>0700 hrs</u>	
				27. DURATION: <u>10 min.</u>	
BAIL OUT OR COLLAPSE SIGN WITH WATER OR GROUND		28. EXIT USED		29. IS THIS THE RECOMMENDED EXIT IF NO STATE READING IS INDICATED?	
				<input type="checkbox"/> YES <input type="checkbox"/> NO	
30. DIFFICULTIES WITH THIS EXIT HERE IN REACHING <input type="checkbox"/> IN OPENING <input type="checkbox"/> IN EXITING		31. STATE NATURE OF SURVIVAL:			
32. BODY POSITION DURING EXIT					
33. LIST OTHER FACTORS NOT INDICATED ABOVE WHICH AFFECTED EXIT FROM A/C					

**SURVIVAL FACTORS:** Check factors below which are appropriate for this accident. Prepare a detailed narrative account of the factors checked below and attach to this form. Identify each item discussed by item number (e.g., H30, H31, etc.)

<b>COMMUNICATIONS:</b>		<b>MAINTAINING BODY TEMPERATURE:</b>	
<input type="checkbox"/> 33. Communicated position prior to mishap		50. Items used as shelter	
<input type="checkbox"/> 34. Witnesses at scene		51. Items used as clothing	
<input type="checkbox"/> 35. Electronic signal devices		52. Fire	
<input checked="" type="checkbox"/> 36. Visual signal devices		53. OTHER:	
<input type="checkbox"/> 37. Auditory signal devices		54. Exposure to natural forces	
<input type="checkbox"/> 38. OTHER:		55. Exposure to dangerous animals and plants	
<b>SHelters:</b>		56. Unfriendly native population	
<input type="checkbox"/> 39. LAND		57. OTHER:	
<input type="checkbox"/> 40. WATER		<b>ENVIRONMENTAL HAZARDS:</b>	
<b>Shelter:</b>		58. Isolation	
<input type="checkbox"/> 41. Life rafts		59. Psychological shock	
<input type="checkbox"/> 42. Parachute		60. Lack of motivation to survive	
<input type="checkbox"/> 43. A/C structures		61. Boredom	
<input type="checkbox"/> 44. Natural shelter		62. Rationing, activities, and group coordination	
<input type="checkbox"/> 45. Man-made shelter		63. OTHER:	
<input type="checkbox"/> 46. OTHER:		<b>FOOD SOURCE:</b>	
<b>Food:</b>		64. Prepared survival rations	
<input type="checkbox"/> 47. Sunlight hit, connector or solar still		65. Animals/plants	
<input type="checkbox"/> 48. Rain, dew, snow, ice, etc.		66. OTHER:	
<input type="checkbox"/> 49. Processed beverages		<b>SURVIVAL TRAINING RECEIVED PRIOR TO MISHAP:</b>	
<input type="checkbox"/> 50. Cigarettes, tobacco, water breaker, etc.		<input checked="" type="checkbox"/> 67. See attached sheet	
<input type="checkbox"/> 51. Gums, pads, rolls, etc.			
<input type="checkbox"/> 52. OTHER:			

#33. Pilot fired tracers at FOURESTAL and 2 at the destroyer, All four of which were seen by personnel aboard. When the destroyer approached him, he waved a red lens 2 cell flashlight, which had been clipped to his torso harness. According to the destroyer rescue crew, it was a great aid in pin pointing his position. When their search light was on him, the reflective tape of his helmet aided the rescue crew to keep him in sight.

#67. May 58, Exercise "Tenderfoot", 2½ week land survival course at Fort Bragg.

Jan 1960 - Dilbert Dunker and helo hoist.

Jan 1961 Mobile Survival Training Unit, Oceana.

Jan 1962 (a) F4H ejection seat training.

(b) Paraharness hoist in hangar.

(c) Paraharness release, with full pressure suit in water; oxygen breathing under water with full press. suit.

(d) Survival Swim.

(b) (5)



## MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 6

DRAFT REPORT 2700.1

PHOTOGRAPHIC PHOTOS (Use A to denote ANTE MORTEM; P for POST MORTEM, when known and applicable.)  
 (b) (6)

PHOTO 2/8

F4B (F4U-1)

(b) (6)	(b) (6)	4. VICTIM	5. LOCATION AND DIRECTION FACING AT TIME OF ACCIDENT	6. INTRACRANIAL INJURIES (Non-fatal cases)
		(b) (6)	Pilot cockpit, Martin Baker seat	D
		7. OTHER INJURIES (Other than)	None	
		HEAD	<input type="checkbox"/> MINOR <input type="checkbox"/> SERIOUS <input type="checkbox"/> CRITICAL <input type="checkbox"/> FATAL (b) (6)	10. FASCIAL INJURIES
		ARMED FORCES	RIGHT	11. INTRABRACHIAL INJURIES
		RIGHT	LEFT	None
		12. VERTebrae (Report by No.)	SHOULDER	13. AXIAL SITES EXAMINED
		CERV. CERV. THOR. LUMBAR SACRAL OSTEOP.	RIBS POLVIS	RIGHT
			UPPER ARM LOWER ARM HAND	LEFT
			R L R L D L E L R L	
			SHOULDER ELBOW WRIST	HIP KNEE ANKLE
		JAW	ARM	ANKLE
			WRIST	FOOT

(b) (6) INJURIES/TRAUMA (State Part)

14. LIST PRE-EXISTING PHYSICAL DEFECTS/PREMONITION AT TIME OF POST CRASH EXAMINATION

None

(b) (6)

15. <input type="checkbox"/> BRONCHI	16. <input type="checkbox"/> ASPIRATED
<input type="checkbox"/> MILD	<input type="checkbox"/> MILD
<input type="checkbox"/> MODERATE	<input type="checkbox"/> MODERATE
<input type="checkbox"/> SEVERE	<input type="checkbox"/> SEVERE
17. HISTORY OF CARBONIZATION:	
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> COMPLETE	
18. THERAPY	
<input type="checkbox"/> YES <input type="checkbox"/> NO	

<input type="checkbox"/> BURNS	DEGREES	MILD	MED	SEV	DEG	MILD	MED	SEV	19. HISTORY OF CARBONIZATION:
<input type="checkbox"/> FROST SITE	AREA	HEAD/neck	Face	TRUNK/abdomen	Abdomen	ARM	LEG		<input checked="" type="checkbox"/> NONE <input type="checkbox"/> COMPLETE

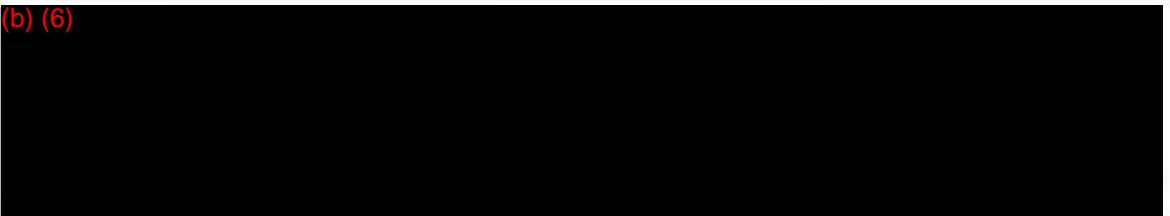
NOTE: Attach a detailed narrative account of injuries, cause, structures causing injury, magnitudes of force, and include whether ante- or post-mortem is determined. It is necessary to give as clear a picture of injury cause and sequence as possible.

20. YES <input type="checkbox"/> NO <input type="checkbox"/>	21. DIAMMOSIS NO. (REFERS TO 20-224)	22. ESTIMATED STAY ON SITE
23. YES <input type="checkbox"/> NO <input type="checkbox"/>	#6263	2 days
24. YES <input type="checkbox"/> NO <input type="checkbox"/>	25. ESTIMATED DURATION	
26. PRIMARY CAUSE OF DEATH	TWO (2) days	

27. MEDICAL RECORD NUMBER: 28. PRIMARY CAUSE OF DEATH

29. AUTOPSY CONDUCTED BY	30. IF FLIGHT CREW MEMBERS WERE KILLED, LIST	
<input type="checkbox"/> PATHOLOGY	<input type="checkbox"/> FLIGHT CREW	
<input type="checkbox"/> TOXICOLOGY	31. TESTS	
32. SPECIMEN	TEST PERFORMED	RESULTS
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385. TEST PERFORMED	RESULTS	
386. TEST PERFORMED	RESULTS	
387. TEST PERFORMED	RESULTS	
388. TEST PERFORMED	RESULTS	
3		

(b) (6)



(b) (6)



**SECTION C - PHYSIOLOGICAL, HUMAN ENGINEERING, DESIGN, SOCIO-PsYCHOLOGICAL, AND TRAINING FACTORS WHICH CONTRIBUTED IN SOME DEGREE TO THIS A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT**

NAME OF INDIVIDUAL (last, first, middle)

BOSTON, Frank Hackney III

MOSSES A/C

**Check X-Established, S-Suspected, or P-Present for each Factor selected. Additional 8100 plain sheets will be used for the supporting account of items checked below. Identify each statement with the factor and section identification (e.g., C-1, C-2, etc.). Attach all sheets pertaining to these factors to this form upon completion.**

E S P	V FACTORS	E S P	V FACTORS	
<b>PHYSIOLOGICAL:</b>				
	1. Physically incapacitated in flight		29. Expenditures/Delays	
	2. "G" forces		30. Weather	
	3. Environmental stress - External		31. Mechanical Problems	
	4. - Internal		32. Social and working relationships	
	5. Dysbarism/explosive decompression		33. Personal conduct	
	6. Diet		34. Regulations	
	7. Fatigue		35. Facilities	
	8. Hypoxia		36. Navigation	
	9. Related illness		37. Duty assignment	
	10. Vertigo/Orientation/Illusions		38. Personality traits	
	11. Hyperventilation		<b>NON-FACTORS:</b>	
	12. Drugs		39. Faculty attention	
	13. Physical state		40. Poor judgement	
	14. OTHER		41. Forgetfulness	
<b>HUMAN ENGINEERING AND DESIGN:</b>				
	15. Personal equipment		42. OTHER SOCIO-PSYCHOLOGICAL	
	16. Displays and/or controls			
	17. Work arrangement			
	18. Working environment			
	19. Habit interference			
	20. OTHER			
<b>SOCIO-PSYCHOLOGICAL:</b> (Functional stress from non-duty sources)				
	21. Pregnancy		<b>TRAINING:</b>	
	22. Illness or death		43. Physiological training	
	23. Arguments		44. Emergency Procedure training	
	24. Elated/Depressed state		45. Survival and rescue training	
	25. Personal habits - Drinking		46. Delays/Weather training	
-	26. - Sex		47. Transition training	
-	27. - Gambling		48. OTHER	
-	28. - Debts			

**SECTION D - AIR CREW DATA** (Fill in where applicable)

1. Flight time past 30 days	25.6	7. Total time in model	26.3
2. Flight time last 24 hours	1.7	8. Number of days grounded last month, give reason	
3. Number of flights in last 24 hours	1		NONE
4. Time at controls this flight	NA	9. Number of and dates of previous accidents	
5. Number of hours duty last 24 hours	11		NA
6. Total flight time	1625		

**SECTION E - CONTRIBUTING FACTORS AND THEIR ANALYSES** (As condensed from Part I, Sect. B and Part VIII of the AAFR)

**Fill in this section only on that set of forms prepared for FIRST individual listed in Section A, i.e., 15(a). Attach additional sheets as necessary.**

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OPNAV REPORT 8750-1

## SECTION F - SAFETY, PERSONAL, AND SURVIVAL EQUIPMENT

Prepare a narrative account of damaged or failed items. Identify each item discussed (e.g., Fl, FS, etc.)

NAME OF INDIVIDUAL (Last, first, middle)

BOSTON, Frank Mackey III

MODEL A/C

F4U (F4U-1)

GENERAL DESCRIPTION OF EQUIPMENT	AVAIL-ABLE YES NO	SPECIFIC MODEL OR TYPE	UTILIZED	FAILED	DESCRIPTION OF DAMAGE TO EQUIPMENT
			YES	NO	
1. Shoulder harness	X	MB/MK-5II seat	X		
2. Lap belt	X	Survival kit type	X		
3. Inertia reel	X	MK-5II seat	X		
4. G-Suit	X	Z3 cut away	X		
5. Pressure suit-full or partial	X				
6. Exposure suit	X				
7. Flight suit (other than above)	X	Summer Orange	X		
8. Helmet	X	APH-5	X		
9. Goggles/Eyeshield	X	Tinted Visor	X		
10. Shoes	X	Iron Age	X		
11. Gloves	X	Summer	X		
12. Life vest	X	U-3C	X		
13. Life raft	X	UK-2	X		
14. OTHER:					
15. SIGNAL DEVICE - Flare (Right)	X	LA-1J MOD-0	X		
16. - Flare (Left)	X	LA-1J MOD-0	X		
17. - Dye marker	X	Sea Dive Mark (NQD)	X		
18. - Radio	X	PRC-49	X		
19. - Flashlight	X	MAEST One Cell	X		
20. - Mirror	X	Signalling	X		
21. OTHER:					
22. SURVIVAL GEAR - Knife	X	Survival	X		
23. - First aid kit	X	PSK-2	X		
24. - Shelter	X	Poncho PK-2	X		
25. - Food	X	LA Food Packet	(2)		
26. OTHER:					
27. RESCUE - Vehicle	X	Destroyer			
28. - Sling, Net, Stretcher	X	Net			
29. OTHER:					

## SECTION G - DETAILED EQUIPMENT QUESTIONNAIRE

1. MASK - MODEL OR TYPE <b>A13-A</b>	2. MODIFICATIONS, IF ANY <b>Sierra fittings (1)</b>	
3. REGULATOR - MODEL OR TYPE <b>Bendix C-1 (1)</b>	4. MODIFICATIONS, IF ANY	
5. PREFLIGHTED BY USER? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	6. IF NO, WHY NOT	7. LIST DISCREPANCIES NOTED BY PREFLIGHT CHECK
8. OXYGEN SUPPLY: <b>8</b> LITERS (Liquid) P.S.I. (Gas)	TIME OF ACCIDENT <b>UNKNOWN</b>	9. WAS OXYGEN IN USE AT TIME OF ACCIDENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
10. IF YES, WAS SELECTOR SETTING <b>100%</b> NORMAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	11. WAS ALL OXYGEN EQUIPMENT NECESSARY FOR THIS FLIGHT AVAILABLE? IF NO, LIST ITEMS AND REASON WHY.	
12. WAS OXYGEN MASK REMOVED AT ANY TIME IN FLIGHT? IF YES, GIVE DURATION AND REASON. <b>NO</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/>		
13. TYPE CHUTE RELEASE DEVICE <b>Martin Baker (1)</b>	14. TYPE HARNESS RELEASE DEVICE <b>Rockett jet (1)</b>	15. WHEN WERE RELEASE DEVICES ACTIVATED?
16. DID DIFFICULTIES ENCOUNTERED WITH RELEASE DEVICES IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. <b>NO</b> <input type="checkbox"/> YES <input type="checkbox"/> NO NA		
17. DID DIFFICULTIES ENCOUNTERED AFTER ACTIVATING RELEASE DEVICES IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. <b>NO</b> <input type="checkbox"/> YES <input type="checkbox"/> NO NA		
18. DID LIFE JACKET INFLATE PRIOR TO ACTIVATING RELEASE DEVICES IF YES, WHAT DIFFICULTIES DID THIS PRODUCE? <b>NO</b> <input type="checkbox"/> YES <input type="checkbox"/> NO NA		

ENCLOSURE TO PAGE 3  
SEE PHOTO #1 & #2.

of the RIO's personal and survival equipment the following items were found in the same oil slick with aircraft parts and human tissue:

- (1) Right glove, flying, summer issue. (b) (6)

(b) (6)

(b) (6)

(2) One half of one ear phone of the APH-5 helmet, broken in an irregular line diagonally across.

(3) One "Sea dye marker" from the life vest. Undamaged and in its container.

(4) The center (Circular) and neck (Rectangular) foam rubber pads from the inside of the APH-5 helmet, both being undamaged.

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## SECTION 6 - DETAILED EQUIPMENT QUESTIONNAIRE (Continued)

NAME OF INDIVIDUAL (Last, first, middle) <b>BOSTON, Frank Mackey III</b>		MODEL A/C <b>F4B (F4H-1)</b>
10. INTEGRATED HARNESS SYSTEM, MODEL/TYPE <b>MA-2</b>		11. INTEGRATED? <input checked="" type="checkbox"/> FULL <input type="checkbox"/> PARTIAL
		12. MODIFICATIONS, IF ANY STATE REASON <b>HUEWES AVIATION CLOTH, &amp; SURVIVAL BULLETIN #12-62</b>
13. DID INTEGRATED HARNESS FIT PROPERLY? IF NO, LIST DISCREPANCIES IN FIT AND GIVE REASONS THEREFOR <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES		
14. INTEGRATED HARNESS FITTING WAS CONDUCTED BY: <input type="checkbox"/> WEARER <input type="checkbox"/> FLIGHT SURGEON <input checked="" type="checkbox"/> PARACHUTE RIDER <input type="checkbox"/> AVIATION EQUIPMENT OFFICER <input type="checkbox"/> OTHER		
15. IF INTEGRATED HARNESS WAS USED, WAS IT: <input checked="" type="checkbox"/> LOOSE <input type="checkbox"/> TIGHT <input type="checkbox"/> SLACK <input type="checkbox"/> OTHER CONDITION		
16. TYPE HELMET <b>AH-5</b>	17. LIST PRESCRIBED MODIFICATIONS <b>Sierra fittings</b>	(1)
18. OTHER MODIFICATIONS AND REASONS FOR THEM <b>See attached sheet</b>		19. DID HELMET FIT PROPERLY? IF NO, GIVE REASON <b>(5)</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
20. HELMET FITTING WAS CONDUCTED BY: <input type="checkbox"/> WEARER <input type="checkbox"/> FLIGHT SURGEON <input checked="" type="checkbox"/> PARACHUTE RIDER <input type="checkbox"/> AVIATION EQUIPMENT OFFICER <input type="checkbox"/> OTHER		
21. TYPE GEAR <b>MB PAS15</b>	22. LAST PADDING DATE <b>10-17-62</b>	23. MODEL/TYPE BAILOUT OXYGEN <b>Scott seat kit (3)</b>
24. DID AUTOMATIC RIPCORD FAULTY? IF YES, WHY? <input type="checkbox"/> NO <b>NA</b>		25. AUTOMATIC RIPCORD, IF INSTALLED (Model and type) <b>(8) NONE</b>
26. IF MANUALLY ACTIVATED STATE REASON AND ANY DIFFICULTIES ENCOUNTERED		27. WAS RIPCORD ACTIVATED <input type="checkbox"/> MANUAL <input type="checkbox"/> AUTOMATIC
28. DID GATE OPEN IMMEDIATELY? IF NO, GIVE REASON <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <b>Never activated</b>		29. ALTITUDE THAT GATE OPENED <b>( )</b> FEET
30. REPORTING GRADE <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE		31. BODY ATTITUDE AT OPENING
32. DRIVE OSCILLATION FREQUENCY: <input type="checkbox"/> NONE <input type="checkbox"/> SLIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE		33. IF OSCILLATION WAS PRESENT, HOW WAS IT STOPPED
34. WEATHER CONDITIONS DURING DESCENT (List in sequence)		35. TOPOGRAPHY OF LANDING SITE
36. WAS BAILOUT OXYGEN CONNECTED? <input type="checkbox"/> BEFORE EXIT <input type="checkbox"/> AFTER EXIT <input type="checkbox"/> NO <b>N.A.</b>		37. WAS BAILOUT OXYGEN USED? IF NO, WHY <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO
38. WHO DROVE IT ACTIVELY? <input type="checkbox"/> BEFORE EXIT <input type="checkbox"/> AFTER EXIT		39. GIVE DIFFICULTIES ENCOUNTERED WITH BAILOUT OXYGEN AND THEIR CAUSE, IF ANY
40. WAS DRIVE STEADY <input type="checkbox"/> TIGHT <input type="checkbox"/> MODERATE <input type="checkbox"/> LOOSE		41. WAS A SITTING POSITION IN SLING MAINTAINED DURING DESCENT? IF NOT, WHY <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NOT ATTEMPTED
42. STATUS OF PARACHUTE IF RELEASED (Model/Type) <b>(6) NONE</b>		43. WAS PARACHUTE CORDAGE CONNECTED TO LIFE VEST & BELT IF NO, WHY <input type="checkbox"/> NO <input type="checkbox"/> YES
44. LIST TYPE OF PARACHUTE TRAINING COMPLETED BY THIS INDIVIDUAL <input type="checkbox"/> NONE		
45. IF ATTEMPT WAS MADE TO RELEASE PARACHUTE DURING DESCENT, WAS RELEASE ACTIVATED SUCCESSFULLY? <input type="checkbox"/> YES <input type="checkbox"/> NO		46. IF NO, GIVE REASON
47. IF AIRCRAFT, EXPOSURE SUIT, FULL OR PARTIAL PRESSURE SUIT WAS WORN, DID IT FIT PROPERLY? IF NOT, LIST DISCREPANCIES IN FIT AND GIVE REASONS <input type="checkbox"/> YES <input type="checkbox"/> NO		
48. WAS G-SUIT EQUIPPED WITH A SPRING-LOADED STREAMER ADAPTER? IF NO, GIVE REASON <input type="checkbox"/> YES <input type="checkbox"/> NO		
49. LIST ALL ITEMS OF NON-STANDARD CLOTHING OR SURVIVAL EQUIPMENT UTILIZED <b>None</b>		
50. WAS ANY EQUIPMENT LOST OR WAS ITEM UNUSUAL, WHEN LOST, AND <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <b>RIO and A/C when they sank, except as noted in enclosure to page 3.</b>		51. WAS ANY ITEM OF EQUIPMENT STREAMER? IF YES, STATE ITEM, WHEN STREAMED. <input type="checkbox"/> NO <input type="checkbox"/> YES <b>NA</b>

~~ENCLOSURE TO PAGE 4~~

#27. Modifications on APH-5 helmet.

- (a) BUAFR Aviation Clothing and Survival Equipment Bulletin #19-58.
- (b) BUAFR Aviation Clothing and Survival Equipment Bulletin #35-60.
- (c) BUAFR Aviation Clothing and Survival Equipment Bulletin #1-60.

## SECTION H - EMERGENCY EXIT FROM A/C AND SURVIVAL FACTORS

NAME OF INDIVIDUAL (last, first, middle)

BOSTON, Frank Mackey III

MODEL A/C

F4D (F4H-1)

S	E	S-SUSPECTED, E-ESTABLISHED			REMARKS					
		1. EJECTION - Attempted								
		2. - Accomplished								
		3. - Through canopy								
YES	NO	4. EJECTION DIFFICULTIES ENCOUNTERED	IF YES, EXPLAIN DIFFICULTIES							
		4a. - Prior to								
		4b. - During								
		4c. - Subsequent to								
		5. Give type and model of seat used								
		6. BAILOUT - Attempted								
		- Accomplished								
7. ALTITUDE AT TIME OF EXIT (feet)			10. ATTITUDE OR MANEUVER OF A/C AT EXIT OR IMPACT		11. AIRPORTED					
ABOVE SEA LEVEL _____ ABOVE TOPOGRAPHY _____										
12. POSITION OF A/C WITH		13. CONTROLLED?		14. POWER		15. WHEELS		16. FLAPS		
<input type="checkbox"/> GROUND <input checked="" type="checkbox"/> WATER		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> UNKNOWN		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF		<input checked="" type="checkbox"/> UP <input type="checkbox"/> DOWN		<input checked="" type="checkbox"/> FULL <input type="checkbox"/> UP <input type="checkbox"/> PARTIAL		
17. CANOPY POSITION AT EXIT OR IMPACT			18. SEA STATE		19. AIR TEMP.		20. WATER TEMP.		21. A/C FLOATED	
<input type="checkbox"/> OPEN <input checked="" type="checkbox"/> CLOSED <input type="checkbox"/> JETTISONED			Calm		66.5 °F		71 °F		0 SEC.	
22. BAIL OUT		23. IS THIS THE RECOMMENDED EXIT? IF NO STATE REASON FOR CHOICE								
OR		<input type="checkbox"/> YES <input type="checkbox"/> NO								
CALL SIGN		24. DIFFICULTIES WITH THIS EXIT WERE		25. STATE NATURE OF DIFFICULTY						
WITH		<input type="checkbox"/> IN HEADING <input type="checkbox"/> IN OPENING <input type="checkbox"/> IN EXITING								
WATER		26. BODY POSITION DURING EXIT								
OR										
GROUND										
27. LIST OTHER FACTORS NOT INDICATED ABOVE WHICH Affected EXIT FROM A/C										

**SURVIVAL FACTORS:** Check factors below which are appropriate for this accident. Prepare a detailed narrative account of the factors checked below and attach to this form. Identify each item discussed by item number (e.g., H30, H31, etc.)

<b>COMMUNICATIONS:</b>		<b>MAINTAINING BODY TEMPERATURE:</b>	
H30. Communicated position prior to mishap		H30. Items used as shelter	
H31. Vitamins or drugs		H31. Items used as clothing	
H32. Electronic signal devices		H32. Fire	
H33. Visual signal devices		H33. OTHER	
H34. Auditory signal devices		<b>ENVIRONMENTAL HAZARDS:</b>	
H35. VINES		H34. Exposure to natural forces	
<b>TRAVEL:</b>		H35. Exposure to dangerous animals and plants	
H36. LAND		H36. Unfriendly native population	
H37. WATER		H37. OTHER	
<b>SHelter:</b>		<b>MORALE:</b>	
H38. Life rafts		H38. Isolation	
H39. Parachute		H39. Psychological shock	
H40. A/C structure		H40. Lack of motivation to survive	
H41. Natural shelter		H41. Boredom	
H42. Man-made shelter		H42. Rationing, activities, and group coordination	
H43. OTHER		H43. OTHER	
<b>FOOD SOURCE:</b>		<b>survival training received prior to mishap:</b>	
H44. Survival kit, connector or color still		H44. Prepared survival rations	
H45. Fish, deer, moose, bear, etc.		H45. Animals/plants	
H46. Preserved beverages		H46. OTHER	
H47. Alcohol, tobacco, water breaker, etc.		H47. See attached sheet	
H48. Fruits, seeds, wild onions, etc.			
H49. OTHER			

ENCLOSURE TO PAGE 5

- #67. Water indoctrination with full pressure suit 5-31-62.
2. Scott survival kit drill 6-62.
3. Ejection seat - live charge 9-60.
4. Survival swim and dilbert dunker 10-60.

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OPNAV FORM 0750-88 (Rev. 6-88)

OPNAV REPORT 0750-88

SECTION I - PATHOLOGICAL FINDINGS (Use A to denote ANTE MORTEM; P for POST MORTEM, when known and applicable.)  
1. NAME OF INDIVIDUAL (Last, first, middle) **BOSTON, Frank Mackey III**

MODEL A/C

FAA (141-1)

E. INJURY CODE

E. AGE	F. HEIGHT	G. WEIGHT	H. LOCATION AND DIRECTION FACING AT TIME OF ACCIDENT	I. MODEL A/C
(b)	(b)	(b)	In rear cockpit	FAA (141-1)
J. UNCONSCIOUSNESS			K. INJURIES	L. E. INJURY CODE
<input type="checkbox"/> DURATION <input type="checkbox"/> LITTLE SIGNIFICANCE			<input type="checkbox"/> OTHER (give time)	A. INJURIES (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z)

M. GENERAL CONCUSSION		N. FACIAL INJURIES (b, c, d)	O. INTRA-ORAL INJURIES											
HEAD	<input type="checkbox"/> MILD <input type="checkbox"/> SERIOUS <input type="checkbox"/> CRITICAL <input type="checkbox"/> FATAL													
P. MINOR EYE INJURIES		Q. MAJOR EYE INJURIES												
<input type="checkbox"/> RIGHT <input type="checkbox"/> LEFT		<input type="checkbox"/> RIGHT <input type="checkbox"/> LEFT												
R. TYPE OF FRACTURE		S. SKULL	T. VERTEBRAE (Specify No.)	U. SHOULDER GIRDLE	V. RIBS	W. PELVIS	X. UPPER ARM	Y. LOWER ARM	Z. HAND	A. UPPER LEG	B. LOWER LEG	C. FOOT		
SIMPLE		CRAN.	FACIAL	CERV.	THOR.	LUMBAR	SACRAL	OCOCYX	R	L	R	L		
COMPOUND														
COMMUNICATED														
DISLOC.		JAW												
LOCATION														
E. AMPUTATIONS/AVULSIONS (State Parts)		F. LIST PRE-EXISTING PHYSICAL DEFECTS PRESENT AT TIME OF POST CRASH EXAMINATION												

None

G. SOFT TISSUE INJURIES		LACERATIONS			CONTUSION/SPRAIN/STRAIN			ABRASIONS			H. CONCUSSION		
HEAD	VENTRAL	MILD	MILD	MODERATE	MODERATE	SEVERE	MODERATE	MODERATE	SEVERE	MODERATE	MODERATE	SEVERE	MODERATE
(b, c, d)	DORSAL												
NECK													
THORAX	VENTRAL												
	DORSAL												
ABDOMEN	VENTRAL												
	DORSAL												
EXTREMITIES	UPPER												
	LOWER												
I.	DEGREE	1ST	2ND	3RD	1ST	2ND	3RD	1ST	2ND	3RD	1ST	2ND	3RD
<input type="checkbox"/> BURNS													
<input type="checkbox"/> FROST BITE	AREA	HEAD (ventral)	Dorsal	TRUNK (ventral)	Dorsal	ARMS	LEGS	J. EXTENT OF CARBONIZATION			K. EXPOSURE		

NOTE: Attach a detailed narrative account of injuries, cause, structures causing injury, magnitudes of force, and include whether ANTE- OR POST-MORTEM if determined. It is necessary to give as clear a picture of injury cause and sequence as possible.

34. ADMITTED TO Sick LIST IF YES, GIVE DIAGNOSIS

 YES  NO NA

35. DIAGNOSIS NO./REF ID P-1294

36. ESTIMATED DAY ON SICK LIST

37. DISCHARGED IF YES GIVE REASON

 YES  NO NA

38. ESTIMATED DURATION

DAYS

39. PRIMARY CAUSE OF DEATH (See Death, Mortality, Morticators, REvised P-1294) 40. SECONDARY CAUSE OF DEATH

(b) (6) NO

NO. 8651

41. AUTOPSY REQUEST		42. PROTOCOL ATTENDED	43. WILL BE PERFORMED	44. AUTOPSY CONDUCTED BY	45. IF FLIGHT SURGEON DOES AUTOPSY USE AUTOPSY GUIDE FOR A/C ACCIDENT FATALITIES, AFIP.	
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> PATHOLOGIST <input type="checkbox"/> FLIGHT SURGEON	NO.	
46. SPECIMEN		TEST PERFORMED	RESULTS	SPECIMEN	TEST PERFORMED	RESULTS
47. 1		4		TISSUE: (long)		
48.				- MUSCLE		
49.				- BLOOD		
50. OTHER				OTHER		

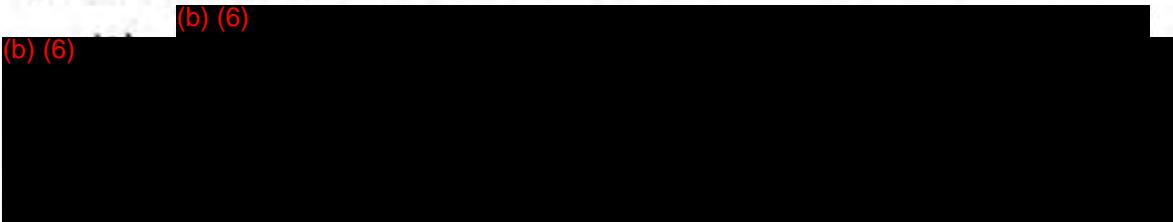
46. GIVE A DETAILED AND IDENTIFIABLE ACCOUNT OF TESTS MADE AND INTERPRETATION MADE USE AT THE CRASH SITE OR AUTOPSY. LIST THEM IN THIS SPACE. FOR EACH ENTRY IS

**ENCLOSURE TO PAGE 6**

**See photo #3 & #4**

About 12 hours after the crash of F4H-1 BU NO 148374, the following tissue was recovered at the crash site by USS JONAS INGALL (DD938).

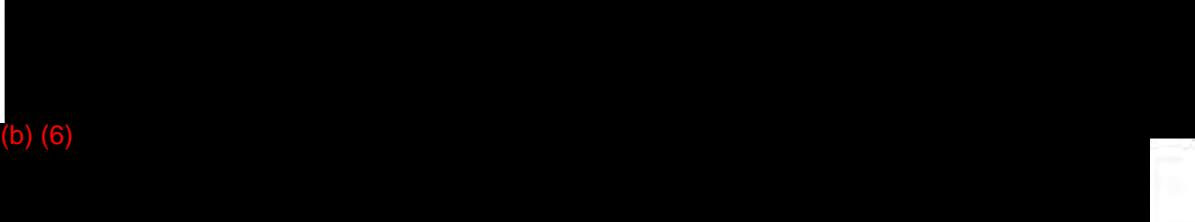
(b) (6)



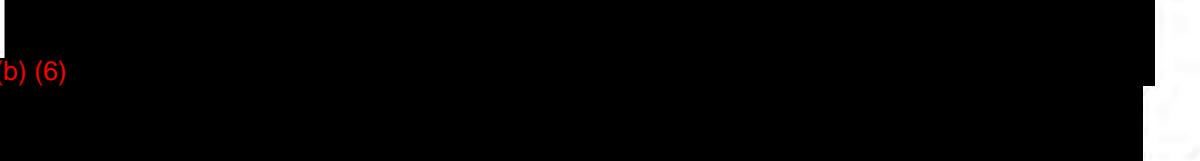
(b) (6)



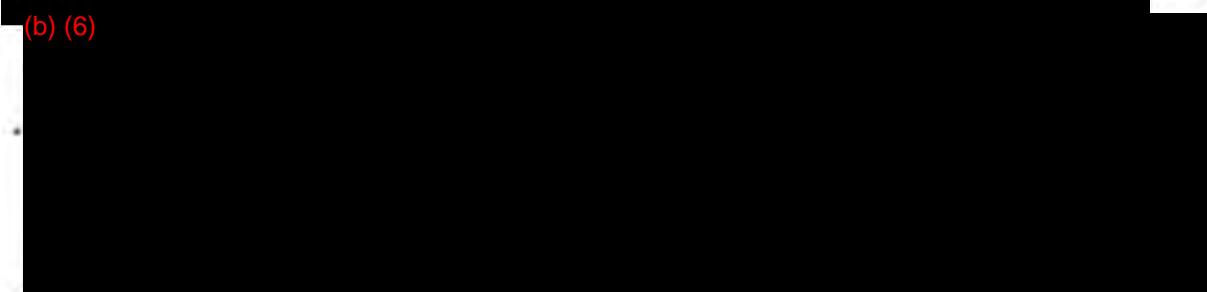
(b) (6)



(b) (6)



(b) (6)



## CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusions.

(1) After ejection of the pilot, the plane crashed into the sea and exploded under water.

(2) That the RIO did not eject is evident from the following findings:

(b) (6)

(b) (6)

(b) (5), (b) (6)

(b) (6)

(3) As to why the RIO did not eject, the following are possibilities:

(b) (5)

### B. Recommendations.

(1) The pilots' cockpit of the F4H-1 should be provided with an air or battery driven standby gyro. For ease of monitoring; the primary attitude gyro, the two should be placed side by side.

(2) It should become SPO in all tandem seated aircraft that the RIO call off the end speed over ICS on every cat shot to avoid having a break in communications of which neither the pilot nor the RIO is aware at that crucial moment.

(3) Should such a break in ICS occur, the RIO should monitor his own instruments and be prepared to eject, rather than divert his attention to upper block or microphone to remedy the ICS problem, until a safe altitude is reached.

(4) The RIO should routinely monitor the attitude gyro on all cat shots and report unusual attitudes to the pilot.

(5) The safety center should study LT (b) (6) procedure of entering the PK 2 life raft while wearing an inflated MCSC life vest as compared to the presently recommended procedure.



PHOTO  
#2

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